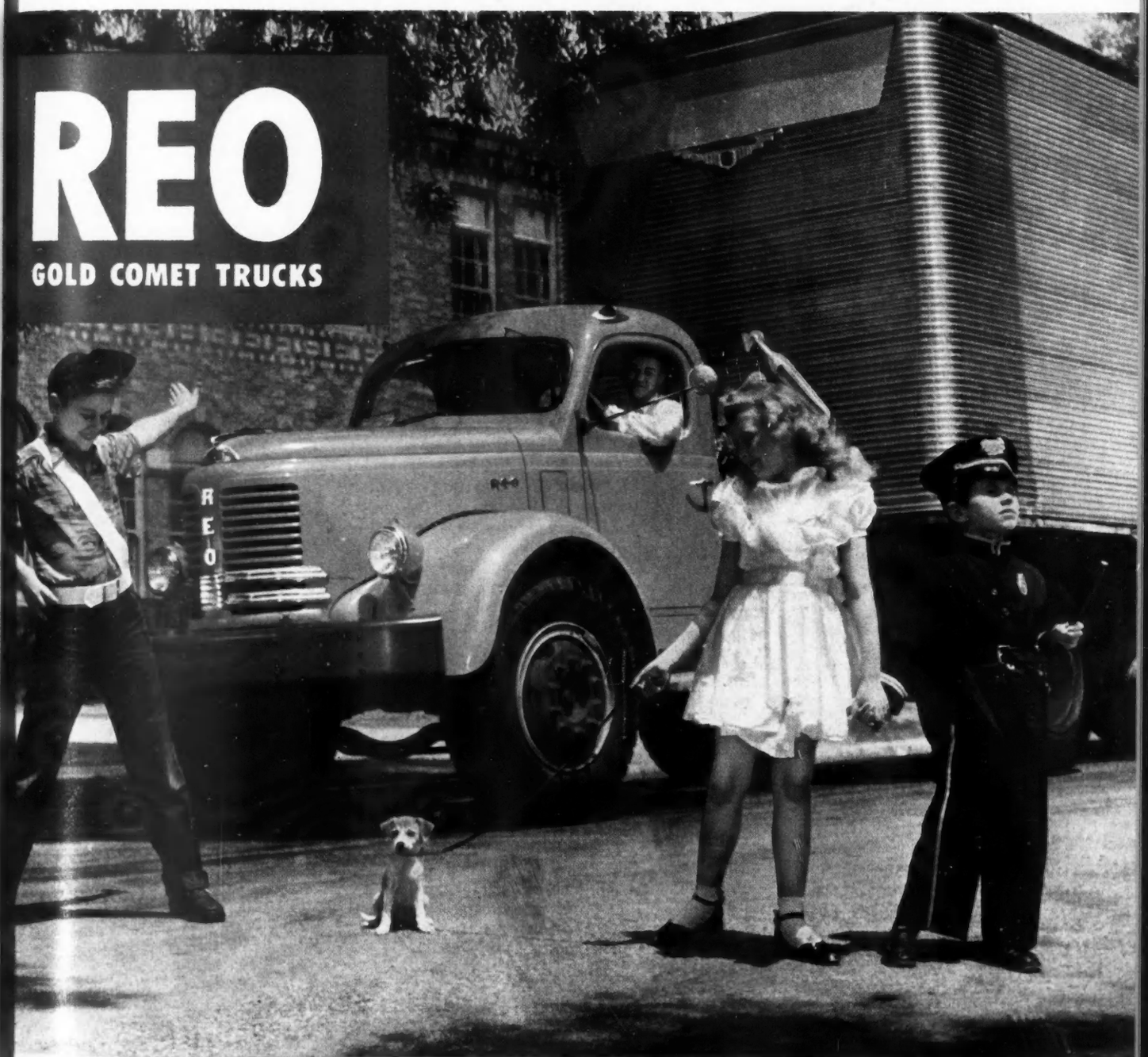
FLEET OPERATORS' REFERENCE ANNUAL

APRIL 1951

CCJ COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS



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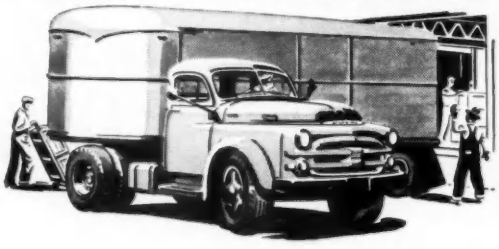

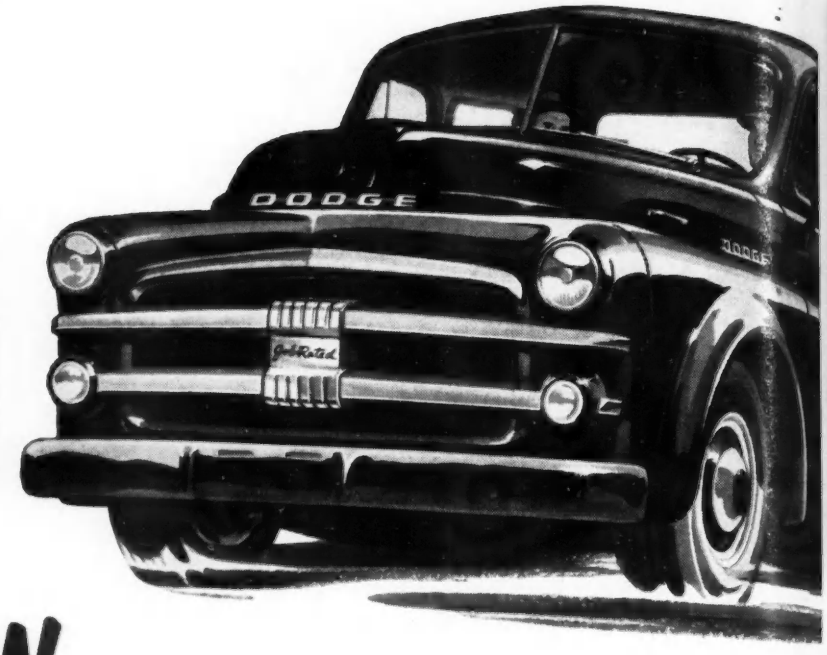

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NEW! EASIER BAD-WEATHER STARTING with new moistureproof ignition and high-torque starting motor.

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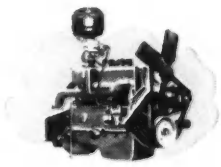

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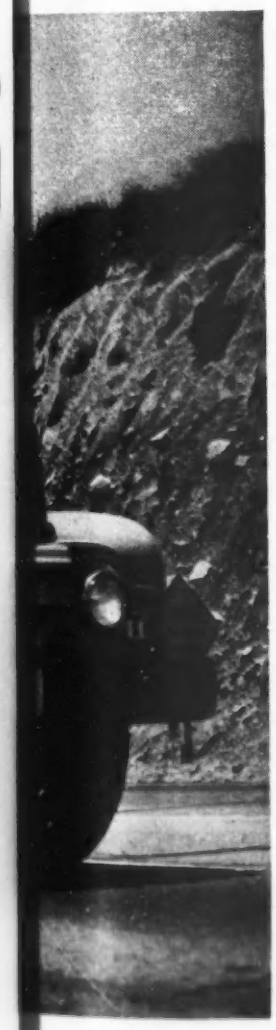

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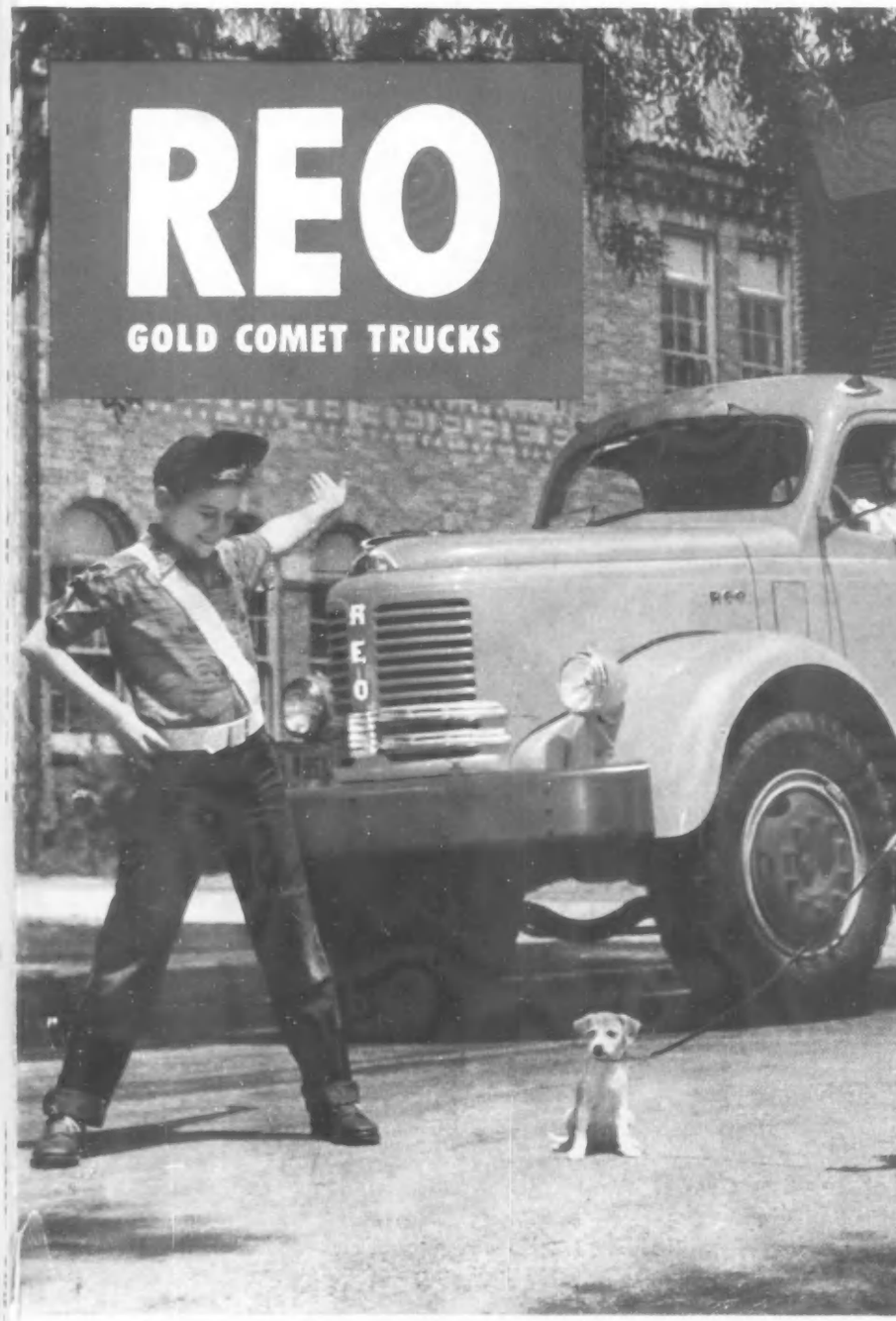

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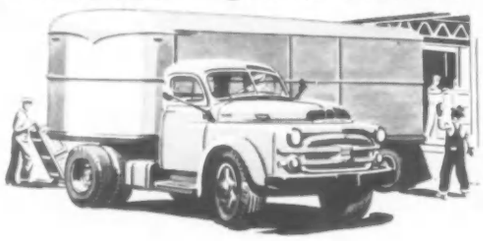

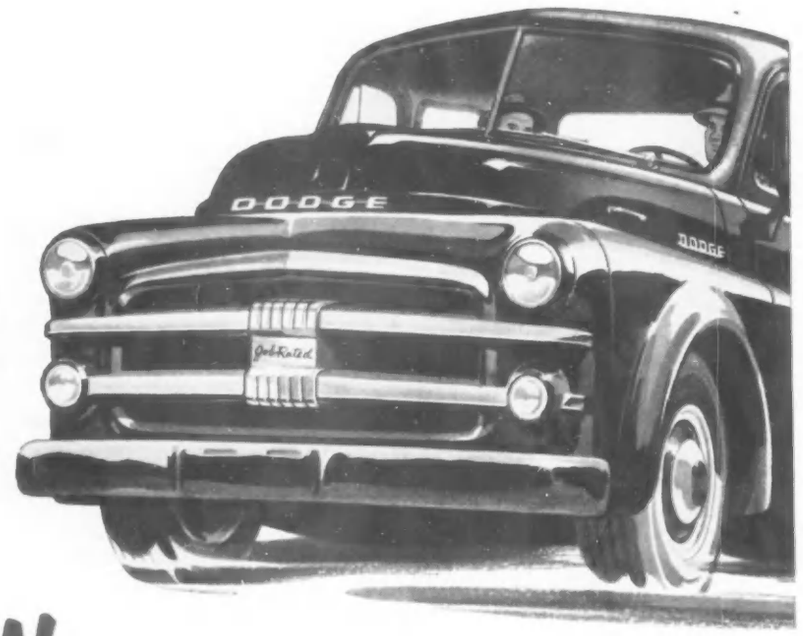

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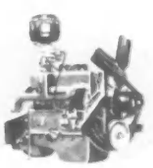

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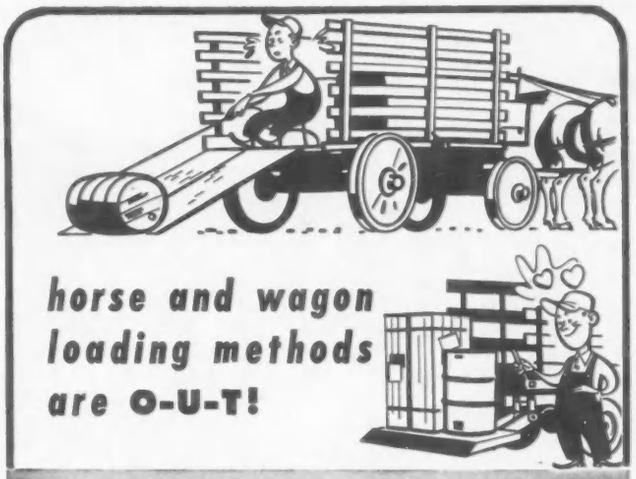

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Lubricants and Fuels
FOR THE TRUCKING INDUSTRY

At Your Service

By M. K. SIMKINS
Technical Editor, Commercial Car Journal

Singing Tires are Safer

An interesting comment with regard to tire noises comes from William F. Billingsley, manager of tire construction for Goodrich. He says that a noiseless tire could be built but at the sacrifice of good anti-skid characteristics. A silent tire, he says, would not develop enough frictional force for proper starting, stopping and steering. And that's where the industry appears to be now—with heads in the testing instruments to determine where tire noise becomes a nuisance or how much competition drivers will tolerate.

Tire hum, it is said, has been reduced by employing smaller design patterns, varying the length of design elements around the tire to set up wave interference patterns, by designing them with higher pitch hum and by sizing design elements so that the tone is less disturbing. In most cases, however, it is comforting to note that singing tires are safe tires, and for that we can stand a little noise.

Air Test of Cylinders

At the risk of being elemental we would like to review some of the engine conditions that can be detected with the use of a compression gage and some pure old fresh air under pressure. Everybody knows how to make compression test, but not every mechanic is apparently using the gage to its best efficiency.

If you suspect the engine of letting you down, stick a compression gage in a spark plug hole with both valves closed on that cylinder and apply air with a hose chuck to approximately 150 lb pressure. A drop in pressure after the chuck is removed indicates leakage somewhere. Where?

Bubbling of air into the radiator indicates a leaky cylinder wall or head. Passage of air into the crankcase and out the breather points to a cracked piston, scored cylinders or defective rings. If air passes into the exhaust manifold, the exhaust valve must be leaking, and if it can be heard at the carburetor throat, the intake valve is not seating. A broken head gasket will result in (1) a leak between cylinders, (2) a leak into the water jacket indicated by bubbling at the radiator, (3) a leak to the outside which can be detected by listening at the head.

A quick check of this type for each cylinder will expose trouble and give you a good idea as to what to tear into.

Controlling Ping and Detonation

It is generally known that continuous knocking and engine detonation resulting from fuel can cause serious engine damage. Broken rings and pistons, blown gaskets, damaged valves, bearing failures and burned spark plugs can often be traced directly to fuel knocks.

Knocking is caused by the instantaneous explosion of part of the fuel mixture instead of the progressive burning across the combustion chamber. Such sudden explosion exerts shock loads or hammer blows on the piston heads and can be transmitted down the rods to the bearings. Uneven combustion disrupts the heat distribution and temperature pattern on the piston and valves, while the increased temperature raises havoc with areas adjacent to the fuel charge.

Detonation is caused by use of inadequate octane gasoline for the particular load and speed conditions, so the first remedy for this condition is to select higher octane gasoline. After this, ignition timing can be retarded. However, combustion characteristics should be studied and the engine brought up to peak operating condition, maintenance wise, before drastic measures are employed. A slightly rich carburetor adjustment will aid in cutting knocking tendencies sometimes. Spark plugs of hotter heat range should be tried. Any carbon deposits in the combustion chambers should be removed as this build up has the effect of increasing engine compression ratio and retarding heat dissipation. Hot spots in the cooling system may contribute to detonation and knocking, so scale formations should be removed. And finally, when other measures fail, compression ratio can be decreased by installing double cylinder head gaskets or low altitude pistons.

Moisture Control of Ignition Parts

Ignition troubles arising from moisture can be reduced appreciably with attention to five simple steps, according to Delco-Remy engineers. They reported at a recent SAE meeting that braid and lacquer covered ignition cables are sources of ignition loss when wet. When the coating becomes cracked, the wet braid acts as a wick to carry moisture along the cable. The wet braid becomes an effective conductor and leaks ignition energy to the high tension cable supports and ground. Use of neoprene-covered cables will eliminate this leakage.

(TURN TO PAGE 10, PLEASE)

B.F.Goodrich

Nylon shock shield reduces road delays

Truck operators using B. F. Goodrich truck tires find that road delays are at a minimum. That's because these tires have the added protection of the exclusive nylon shock shield. In between the tread rubber and the cord body, there are layers of strong, elastic, nylon cords. Under impact, these cords work together . . . absorbing and distributing the shock. This results in a 4-way saving:

1. Tire mileage is increased.
2. Tires have greater bruise resistance.
3. Danger of tread separation is reduced.
4. More tires can be recapped.

The nylon shock shield is a patented B. F. Goodrich product development and is now used on all BFG truck tires of 8 or more plies.

BFG tires give better tread wear

The Oregon-Nevada-California Fast Freight, Inc. operates an over-the-highway freight line with 119 vehicles between San Francisco and Portland, and San Francisco and Reno. Although many of the roads used by this company are improved, first-class highways, there are also many miles of winding mountain travel. Here, steering ability is of greatest importance. The B. F. Goodrich Super Highway is ideal for this type of operation. It definitely gives better steering control and produces slow, even tread wear. Better tread wear than other leading brands, says the operator.

Super Highways are built with an extra-heavy tread, especially designed to give long wear. At the same time they run cooler. While it's priced higher, the Super Highway's proved ability to give premium mileage and service makes it worth many times the extra cost. *The B. F. Goodrich Company, Akron, Ohio.*

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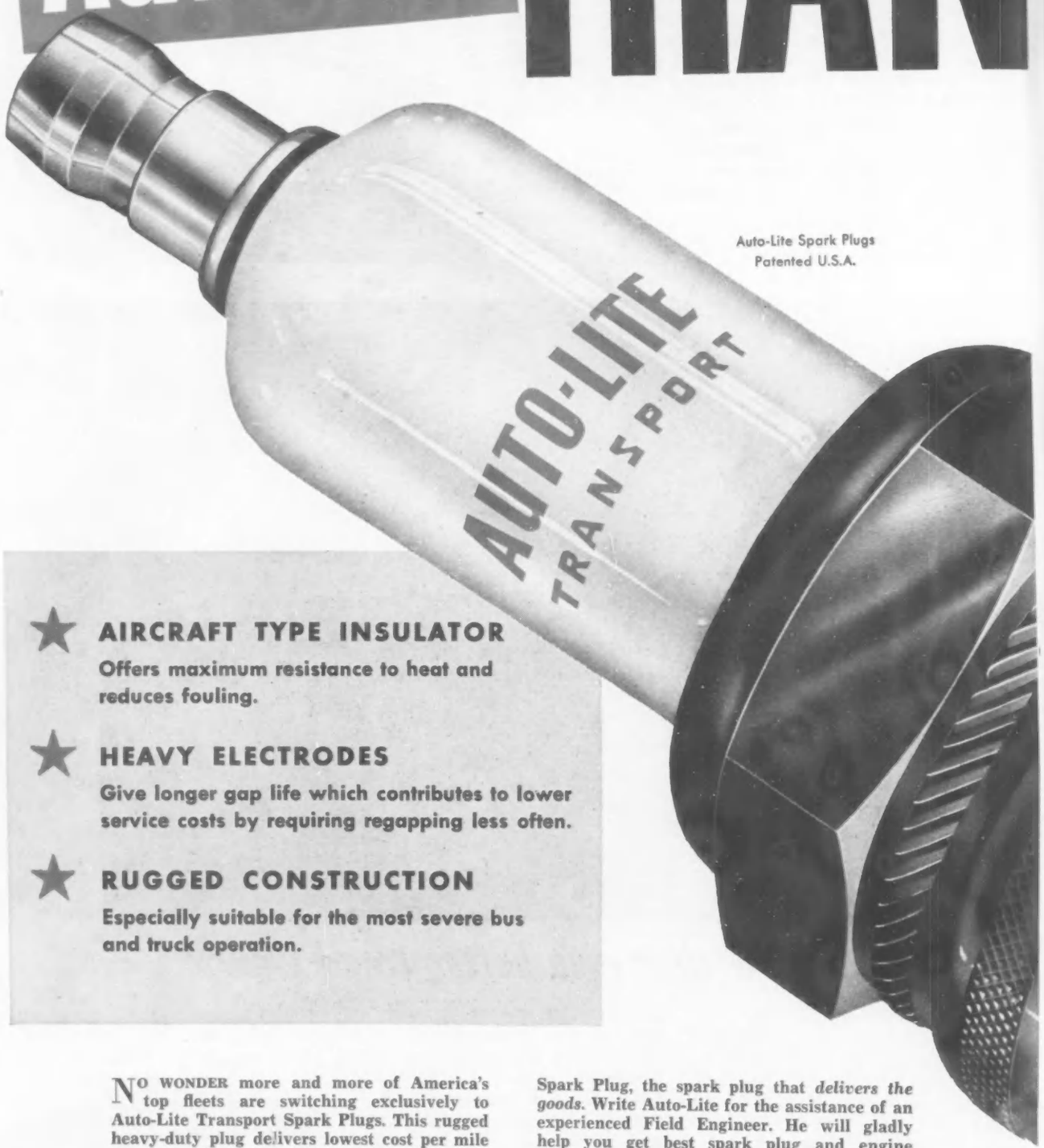

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Continued from Page 6

Use of tightly fitting nipples on the towers of the distributor cap and coil high tension outlet is an effective measure against such loss of electrical energy, they report. Use of a leather or rubber boot, however, to enclose the distributor and adjacent leads is usually unsatisfactory because adequate ventilation is not provided and because these boots do not effectively seal against splash anyway. Use of tightly fitting nipples on the spark plugs cuts voltage drop due to moisture, but because of the high temperatures present and because of the ozone formed in this region, nipples soon lose their effectiveness.

One of the most effective measures in combatting moisture is that of providing adequate ventilation, the engineers report. In some installations, for example, the distributor cap is sufficiently cooled by the engine fan so that crankcase vapors condense on the inner surfaces of the cap. This moisture promotes arc-over on the inside surfaces, resulting in eventual cap failures. Forced air ventilation will serve to evaporate excessive moisture and control such formation.

Use of non-wettable coatings reduces electrical losses from 20 to 25 per cent while the cap is clean. This treatment is not effective, however, when and where the cap becomes oil-dust covered.

More Life for Fan Belts

If you are having excessive fan belt trouble, chances are a careful inspection of failures will show what to do to improve mileages. A CCJ survey shows that fan belts are replaced on an average of every 25,000 miles. Breakdown before this point would indicate one of several responsible factors: (1) overload; (2) internal heat caused by distortion, belt stiffness, chafing, slippage and friction; (3) external heat caused from engine or from improper ventilation; (4) improper distribution of stresses caused by improper fit or excessive tension; (5) deterioration of the belt from contact with oil or chemicals.

From the standpoint of fit we know that length, width and angle of the Vee must fit the flanges of the pulleys. When checking the fit of the belt, see that it is long enough to permit adjustment to be pulled out to the initial running position an amount equal to the thickness of the belt. For width, see that the belt rides out of the pulley beyond the top point of contact 1/16 to ⅛ in. Check angle of pulley with template. The belt angle should never be less than the pulley angle and never greater by more than 4 to 6 deg.

Tension varies with the design and load of the drive. The belt deflection under a force of 25 lb should seldom be less than ⅝ in. or more than ⅞ in. It is generally known that a tight belt will overheat or wear out water pump or fan bearings, while a loose belt will slip and burn up. And of course, once slippage starts it increases rapidly as the compound in the belt so tens. Misalignment of pulleys, or defective pulleys also contribute to early wear. Overloading of the belts results from use of heavier fan assembly, too small a pulley for the load and too small a belt for the flange. Especially with belts used in pairs it is easy to permit an overloading of one or the other belt. For this reason it is imperative that belts be supplied in matched sets. Pulleys should be checked for wear frequently and one worn enough to permit a templet to drop 1/16 in. lower than in a new pulley should be replaced.

A swelled condition of the belt indicates that it has come in contact with oil or grease or engine washing solutions. Such a belt will soon stretch out of shape and should be replaced. Belts subjected to high heat will fail prematurely so when such a condition is present, the assembly should be shielded or insulated from exhaust pipes, etc. Frequent engine cleaning and protection from outside sources of road grime will protect the fan belt and lengthen life appreciably.

Clutch Misalignment

One of the most common causes of clutch trouble, as reported by Russell Mfg. Co., is misalignment between the engine and the transmission. This results in rapid wear on the splines of the clutch plate and on the shaft and causing back lash in the clutch. Worn retractor collars and levers as well as broken clutch plate hubs can also be traced to this business of misalignment.

For an accurate check of alignment both transmission and clutch should be removed to permit a check of flywheel and housing with a dial gage. Gage is mounted on flat or recessed type flywheel to determine runout on the friction face of flywheel. Runout should not exceed .003. Runout at rear face of flywheel should not exceed the same figure. When bell housing is centered by the inside diameter of engine housing, it should be concentric with the flywheel with no more than .005 runout. Checks should also be made to see that rear face of the engine housing is parallel with flywheel face, and runout should not be more than .005 here.

If bell housing is held by dowel pins, the stem gear and bearing should be removed. With transmission case mounted to engine, indicator is placed on flywheel to check the hole in which the bearing is mounted. Variation here should not be greater than .010.

EARS TO GROUND DEPARTMENT

Cheaper Aluminum Assemblies

Recent improvements in brazing alloys and techniques has enabled Alcoa to develop a new method for making cast aluminum assemblies such as cylinder heads and crankcases, which is expected to make them more competitive with integral cast iron parts on a cost basis. The new method eliminates the expensive cores commonly required in the manufacture of aluminum cylinder heads and crankcases. For example, the cylinder head is made in slices, each slice being produced by the permanent mold process without the use of cores. The slices are then assembled in sandwich fashion and brazed together into a single unit. Experimental automobile engines have already been built of aluminum parts made by this new method.

New Type Engine

A revolutionary free-piston power plant developed in France is said to combine conventional diesel engine thermal efficiency with the advantages of gas turbine operation. Operating stability has been achieved despite the absence of con-rod and crankshaft linkages. The free-piston gas producer is actually a supercharged 2-cycle diesel producing exhaust gas at 75 psi pressure and 900-950°F which generates power by expansion to atmospheric pressure in a gas turbine.

"810 Trucks—all AC"

says L. K. NORMAN

L. K. NORMAN
COOK COFFEE COMPANY

COOK COFFEE COMPANY
3618 CHESTER AVENUE
CLEVELAND 14, OHIO

January 10, 1951

AC Spark Plug Division
General Motors Corporation
Flint 2, Michigan

Dear Sirs:

In our business of serving fresh coffee directly to our customers, prompt and regular service is very important.

In order to give regular and prompt service to our customers, our delivery equipment must function properly at all times.

Trucks are constantly starting and stopping, in all kinds of weather, with varied road conditions.

AC spark plugs have helped considerably in keeping motors operating efficiently, proving their efficiency over a period of 17 years.

Our present fleet of 810 units is equipped with AC spark plugs, giving economical, dependable performance.

Yours very truly,
COOK COFFEE CO.
L. K. Norman

LKN:KW

During the 17 years in which the Cook Coffee Company has used AC Spark Plugs exclusively, their fleet of trucks has grown to 810, operating in 15 states, from Coast to Coast.

If your trucks, too, must operate reliably, day after day, in all kinds of weather, AC Spark Plugs with patented *CORALOX* Insulator offer you reliability and long life never possible before AC developed *CORALOX*.

Use AC's for top performance under all operating conditions.

AC SPARK PLUGS

One of Cook Coffee Company's 810 Delivery Trucks

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

Protector

You can depend on Wagner quality because Wagner products are used as original equipment by automobile, truck and trailer manufacturers.

Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRol • CoMax BRAKE LINING • AIR BRAKES

# of Life....

An open message to all fleet operators having trucks with hydraulic brakes....

HYDRAULIC BRAKE FLUID . . . *PROTECTOR OF LIFE OR POTENTIAL KILLER*—You can take your choice. You get the protection you ask for when you use a genuine product from a manufacturer of known integrity.

The pioneer with 27 years' experience in the manufacture and development of Lockheed Hydraulic Brakes, Parts, and Fluid, Wagner's record of service in the industry speaks for itself. Twenty-seven years of recognized leadership . . . quality standards that exceed performance requirements . . . a name you can trust.

Laboratory tests, road tests and years of use in millions of vehicles have proved the efficiency and dependability of Wagner Lockheed Hydraulic Brake Fluid. It complies with the most rigid of requirements, the high standards for quality set by Wagner's own automotive engineers, even surpassing S. A. E. specifications. A tribute to its reputation for high quality is its selection for use by car, truck and trailer manufacturers. For a few pennies more you get a fluid that you can use and recommend with *full* confidence, Wagner Lockheed Hydraulic Brake Fluid.

...and all from ONE source..... your Wagner jobber....

WAGNER CoMaX BRAKE LINING
—offers complete coverage for all your needs . . . in sets, rolls, blocks, slabs, and cut segments. A non-compressible, long-wearing lining of uniform texture.

WAGNER LOCKHEED HYDRAULIC BRAKE PARTS
—a *complete* line, covering *all* makes of cars and trucks, including seldom used, slow-moving parts not easily obtainable elsewhere.

Wagner Electric Corporation
6470 PLYMOUTH AVE., ST. LOUIS 14, MO.
(Branches in Principal Cities and in Canada)

...the best known name in brake service

Please send me the latest Bulletins on Hydraulic Brake Servicing—HU-17H, HU-197.

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ADDRESS_____ ZONE____ STATE_____
CITY_____

TACHOGRAPH • ELECTRIC MOTORS • TRANSFORMERS
INDUSTRIAL CRANE BRIDGE BRAKES

SERVICE NOTES

Briefed for Fleets From Manufacturers' Bulletins

CHEVROLET

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In cases of field complaint, improvement may be made by closing up the shoe guides to provide approximately .005-in. clearance with the shoe webs. Excessive clearance between anchor plate and shoe links may be corrected by shimming, using king pin thrust bearing shim No. 373481, to provide approximately .005-in. clearance at this point. This shim is .005 in. thick and is a good fit over the link pin. Where several shims are used, they should be placed in equal number, if possible, on each side of the anchor plate between the inner and outer links.

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The new and old camshafts are interchangeable, but only the new will be provided for service.

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PLYMOUTH

Speedometer Noise

A whirring noise at the speedometer cable accompanied by a wavering of the speedometer needle might be traceable to lack of lubricant at the speedometer pinion, head, or cable. If the noise is traceable to the pinion, dip the neoprene-type oil seal and sleeve assembly in light engine oil before installing. This will provide initial lubrication and prevent binding and possible noise caused by inadequate lubrication. It is equally important to lubricate the speedometer wick and cable every 10,000 miles.

STUDEBAKER

Transmission Control

Effective with truck Serial Nos. R5-68089, R6-1550, R10-28528, and R11-1516, the shift lever knob has been lowered one inch to facilitate use of reverse or second gear ratios on all 2R5, 2R6, 2R10, and 2R11 model trucks.

Radiator and Fan Assemblies

To provide a stronger radiator core assembly, the cellular type supplied on the 2R5-10-15 models has been changed to a tubular type similar to that used on the 2R16A-17A models.

The fan assembly has also been changed to aid cooling and reduce fan noise. This change became effective in production with engine Serial Nos. 1R-84980 for the 2R5 and 2R10 models and 2R-11632 on the 2R15 model truck.

22-Year User Recommends

CHAMPIONS

to ANY Fleet Operator!

BRANCHES: JACKSON - KNOXVILLE - CHATTANOOGA - MEMPHIS - ST. LOUIS - BIRMINGHAM - ATLANTA - CINCINNATI - LOUISVILLE - FLORENCE AND MANY SMALLER SOUTHERN TOWNS

GENERAL OFFICES: NASHVILLE, TENNESSEE

HOOVER MOTOR EXPRESS CO., INC.

Reliable Daily Service

Nashville, Tennessee
Polk Avenue
December 13, 1950

Champion Spark Plug Co.,
Toledo 1.
Ohio

Gentlemen:

You will be interested in knowing of the satisfactory experience we have had from the use of your product.

The territory through which we operate has varying terrain and climatic conditions and extends from St. Louis, Missouri to Atlanta, Georgia. Our fleet is comprised of over 400 units ranging in size from the heavy duty tractors for road hauls to light equipment used for distribution and inter-city peddle runs.

We have been using Champion Plugs since we commenced operation in 1919. Experience indicates and mileage records show that we get many extra miles of service from Champion Plugs and as a result, we will continue to use your product in all of our units. We would not hesitate to recommend to any fleet operator, whether large or small, the use of Champion Spark Plugs.

Yours Truly,

HOOVER MOTOR EXPRESS CO., INC.

Eph Hoover, Jr.
President

EH/js

Mr. Hoover also operates a fleet of Champion-equipped midget racing cars.

FOLLOW THE EXPERTS

SPECIFY CHAMPIONS FOR YOUR FLEET!

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Built for the Battle Against Time

The Only 10 Speed Transmission with No Gear Splitting . . .

It's no wonder that you can count on faster turn arounds, higher average speeds and better truck performance when your rig is equipped with the Fuller ROADRANGER Transmission!

For in this entirely new kind of transmission, one lever controls 10 speeds forward without gear splitting—and *every* ratio is a *usable* ratio in equal, selective, progressive 28% steps.

And what are the results?

Quicker, Faster Shifts—With 28% steps, there is the same *low* rpm loss with each shift . . .

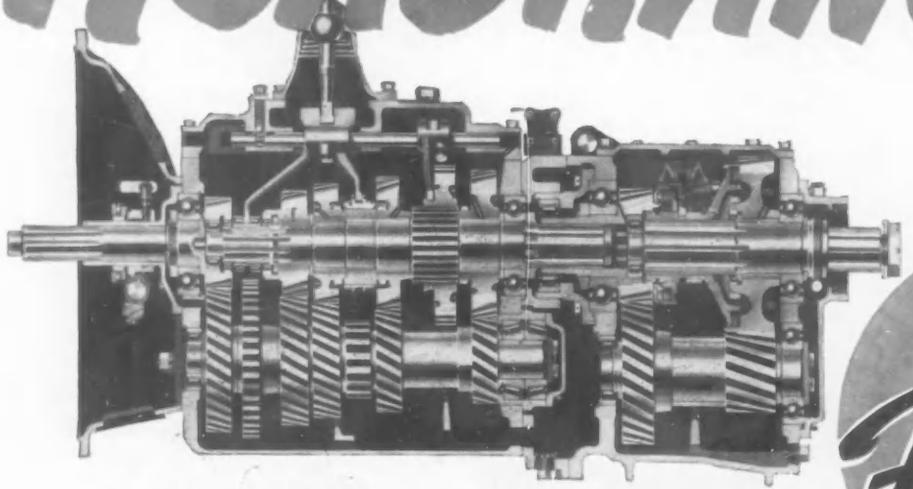
No Gear Splitting—Equal, progressive and selective ratios permit quick, fast shifts, just right for road and load conditions, with only one range shift throughout the progression of 10 speeds . . .

All of the Horsepower, All of the Time—The engine always turns in its maximum hp range for maximum efficiency . . .

Less Driver Fatigue—Easier shifting, ⅓ less shifting with every ratio a usable ratio . . . with one lever controlling all 10 speeds—with no gear splitting.

That's why for profit saving, faster trips, specify for your transmission a Fuller ROADRANGER—truly *built for the battle against time.* Write today for complete details.

ROADRANGER



Model R-95-C ROADRANGER

by Fuller TRANSMISSIONS

FULLER MANUFACTURING COMPANY (Transmission Division), KALAMAZOO 13F, MICHIGAN

Unit Drop Forge Division, Milwaukee 1, Wis. • WESTERN DISTRICT OFFICE (SALES & SERVICE—BOTH DIVISIONS), 1060 E. 11th Street, Oakland 6, Calif.

FORD TRUCK ECONOMY RUN

NEW JERSEY
Report No. 5047

"We haul 15 tons, 1 mile for under 4 cents!"

—says STEPHEN F. MALLARD, PRES.
Mallard Trucking, Jersey City, N. J.

Mallard Trucking Co. entered their 1950 Ford BIG JOB equipped with POWER PILOT in Ford's nationwide Economy Run. They say, "It's the most economical truck we've ever owned!"

A trucker for 30 years, Steve Mallard now owns 7 Ford Trucks. He knows his truck costs, too. He kept accurate records during the Economy Run and says: "In 5 months we logged 7,363 miles on our F-8 BIG JOB. We carried an average load of 15 tons, and had no repairs. Gas, oil and maintenance came to a total of $276.96, giving us a running cost of only 3.76 cents a mile!"

Like others who rely on Ford for low running cost, you'll like the money-saving truck service available at Ford Dealers' everywhere. For more facts on the trucks that last longer *and* save you money every mile—send coupon below.

Ford BIG JOB makes "deadline" run to Philadelphia three to five times a week. Semi-trailer is loaded with printed material.

This new 145-h.p. Ford F-8 for '51 has power reserves to conquer the toughest jobs in trucking. Whether you haul big loads or small, there's an economical Ford Truck to do it. Ford builds over 180 different truck models, powered by V-8 or 6-cylinder engines with Power Pilot Economy.

POWER PILOT helps TRUCKERS hold down hauling costs

The Ford Truck Power Pilot is a simpler, fully-proven way of getting the most power from the least gasoline.

It automatically meters and fires the right amount of gas, at precisely the right instant, to match constantly changing speed, load and power requirements.

Unlike conventional systems, the Power Pilot uses one control instead of two, yet is designed to synchronize firing twice as accurately.

You can use regular gas . . . you get no-knock performance. Only Ford in the low-price field gives you Power Pilot Economy!

MAIL THIS COUPON TODAY!

FORD Division of FORD MOTOR COMPANY
3201 Schaefer Rd., Dearborn, Mich.

Send me without charge or obligation, detail specifications on Ford Trucks for 1951.

Full Line ☐ **Heavy Duty Models** ☐
Light Models ☐ **Extra Heavy Duty Models** ☐

Name_____
(Please print plainly)
Address_____
City_____ Zone____ State_____

FORD TRUCKING COSTS LESS
because FORD TRUCKS LAST LONGER!

Using latest registration data on 7,318,000 trucks, life insurance experts prove Ford Trucks last longer!

you need

BALANCED BRAKES

Brakes *must* be ready for emergencies. And dependable brake action demands balanced linings!

Why? Different shoes, even in the same brake, do different work, need different kinds of linings. Grey-Rock offers balanced combinations of friction materials to provide smoother, safer stops, with equal wear on all shoes, hence *greater mileage.*

In addition, Grey-Rock Balanced Trucksets and Brake Blocks eliminate dive, grab, hard pedal, and other brake ills. For better brake jobs and lower maintenance costs, order Grey-Rock Balanced Sets from your jobber.

GET IT FROM YOUR JOBBER

Grey-Rock

Balanced Trucksets and Balanced Brake Blocks

RM

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., **MANHEIM, PA.**

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings · Brake Blocks · Clutch Facings
Fan Belts · Radiator Hose · Packings · Mechanical Rubber Products · Rubber Covered Equipment
Asbestos Textiles · Powdered Metal Products · Abrasive and Diamond Wheels · Bowling Balls

Where Dependability Counts...

use PACKARD BATTERY CABLES

DEPENDABILITY is what is wanted in battery cables—the assurance that a touch of the starter means *quick, positive starting every time*—in any climate, and in any kind of weather.

That sort of dependability—day after day, year after year—has made Packard Battery Cables the standard of the industry . . . the *standard by which all other cables are judged.* And Packard Battery Cables are used as original equipment on more cars, trucks and buses than any other make.

Packard Battery Cables are full-size, full-weight . . . deliver a full measure of value. They offer a choice of LeadAlloy terminals or leaded brass terminals—and both deliver top performance.

So, where dependability counts, use Packard Battery Cables—use the cable with *proved performance, proved quality, proved superiority.*

Packard

REG. U. S. PAT. OFF.
TRADE MARK

Packard Electric Division, General Motors Corporation
Warren, Ohio

FOREMOST BUILDER OF AUTOMOTIVE AND AVIATION WIRING

PACKARD PETE SAYS—

You're never in doubt with Packard Automotive Cables—for, when you use Packard, you use the finest. Packard Low Tension Cable with amazing "249 compound" insulation—Packard High Tension Cable in spools or packaged in sets—Packard Battery Cables with Lead-Alloy terminals or leaded brass terminals. All are nationally known, widely distributed. Standardize with Packard.

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The OVERLOAD

EDITORIAL COMMENT

MD Test Costs NY Taxpayers Up to $30 Million a Year

THE New York legislature passed the ton-mile tax early last month (see page 162) by 53 to 3 in the Senate and 90 to 47 in the Assembly. Along with others in the industry we asked ourselves why . . . and discovered that we had answered the question rather thoroughly on this very page just a year ago.

In April, 1950, under the heading "Figures Don't Lie . . . But Some Remarkable Fellows Can Figure," we pinpointed the antics of a real estate lobby in the state capitol known as the Citizens Public Expenditures Survey of Albany and its connections with Griffenhagen and Associates. The extraordinary part about this and other rail-inspired lobbies is the remarkable smoothness with which they appear to operate wholly undetected by legislators and other government officials.

Besting the truck interests by 18 to 1 in the Senate and 2 to 1 in the Assembly, the anti-truck lobbies escaped notice by the Governor altogether. Contrast this with what Mr. Dewey had to say about the truck interests in his powerful last minute message to the legislature on March 6:

"In the nine years I have been Governor during a regular legislative session only one other lobby has equalled this one in vehemence and lack of merit."

Sometime, somewhere, somehow, truck interests are going to learn how to make their influence more effectively felt. Meanwhile users of New York state highways, residents and non-residents, for-hire and private carriers alike, will be paying up to $1200 a year more per truck (24 mills for a 60,000 lb truck x 50,000 miles = $1200) and will be passing it along to their customers in the form of a $30 million a year boost in prices for poor old John Q. You-Know-Who!

There was another very significant passage in the Governor's message of March 6 with which every fleetman should be familiar. Slightly condensed but preserved in meaning it reads like this:

"[Highway] maintenance and repair costs increase geometrically with the weight of the vehicle. Recent studies in Maryland . . . revealed some startling facts. Trucks carrying 22,400 lb loads on single rear axles caused six times as much cracking of the highway as the trucks hauling only 18,000 lb . . . eleven times as much cracking of the highway was caused by trucks carrying 44,800 lb tandem axle load as by trucks carrying loads of 32,000 lb."

Here is direct evidence that "results" of the Maryland Road Test were used by the state's most powerful citizen to influence this important decision, despite the fact that *no results* have been published and despite the fact that members of the Highway Research Board themselves have stated repeatedly that incomplete data from *pure research*, should not be used as a basis for legislation. Once again commercial highway transportation has been sold down the river.

* * * *

As for the ton-mile tax itself, it should be stated that we of COMMERCIAL CAR JOURNAL are bitterly opposed.* Yet there is one bright spot. Perhaps it will help curtail further attempts to *reduce* load limits, may even help to *raise* others.

In this connection we would be remiss without calling special attention to DTA Administrator Knudson's powerful letter of March 12 to all Governors (see page 31). Some highway officials are crying Caesar, Stalin and all the other tyrants, but truck operators will recognize it as one of the most forceful and forthright instruments for good that has come out of Washington in a long, long time.

Bart Rawson
Editor

*Best available treatise on this subject is "The Ton Mile Tax and Related 'Third Structure' Taxes" by Dawes Brisbine and Yale Fisher of the National Highway Users Conference, National Press Bldg., Washington 4, D. C.

CCJ REPORTS

on News of the Industry

Highways Use Little Steel

Members of the Association of Highway Officials of the North Atlantic States were told in their annual meeting at Atlantic City, N. J., recently that "Highways are not heavy users of the sinews of war." The speaker was their president, Ray F. Smock.

Mr. Smock continued, "The most critical item is probably steel. But the limited percentage of the output required to keep highway construction in high gear is trifling." He also reminded the members that the nation today continues to pay for the neglect of its highways during World War II, when the nation's highways were considered as an expendable item.

And They Will Get "Very Little"

This announcement by the president of the highway group follows closely on an announcement made by the Director of the Office of Defense Mobilization, Charles E. Wilson. Mr. Wilson repeated the warning which he delivered to New York's Governor Dewey to the effect that there will be "very little" steel for new highway construction in 1951 and 1952 except for access roads to defense projects.

Wage Forms Now Compulsory

A government form has been provided for requests for rulings on wages and salary increases proposed under the general wage stabilization regulations. These may be obtained at any office of the Wage and Hour Division. Four copies must be prepared for each type of general increase considered. The form is called "Wage Stabilization Form No. 1." In the event that a union is acting as spokesman for the employees, the name of the union must be listed and whenever possible both parties should sign the form.

Under the old system, a formal written request was all that was needed for consideration. The new forms are due to the large number of long, wordy requests received. The new forms will be used to record the facts where wage or salary increases are being considered in cases involving merit, length of service, cost of living, promotional increases and the like. The Wage and Hour Division should be asked for a ruling only when the legality of the proposed increases is in doubt.

ATA Heads for San Francisco

The annual Spring Meeting of the American Trucking Assns., Inc., will be held this year at the Fairmont Hotel, San Francisco, during the entire week of May 14 to 19. Generally, Equipment and Maintenance Council meetings will be on Monday and Tuesday; Terminal Operations Council on Wednesday and Thursday; and the Council of Safety Supervisors on Friday and Saturday. There will, however, be numerous overlapping of planned visits to various truck terminals and shops and to the main shops of United Airlines (scheduled for Wednesday afternoon).

Among topics slated for discussion are these:

(TURN TO PAGE 166, PLEASE)

DATES and DOINGS

APRIL 10-11—American Transit Assn. Regional Meeting, Royal York Hotel, Toronto, Ont., Canada.
APRIL 12-13—Advanced Seminar for Fleet Management Personnel Course, Pennsylvania State College, State College, Pa.
APRIL 16-18—American Gas Assn.-Edison Electric Institute conference, Hotel Peabody, Memphis, Tenn.
APRIL 16-18—American Society of Lubrication Engineers, Bellevue-Stratford, Phila., Penna.
APRIL 16-18—Society of Automotive Engrs. Meeting, Statler Hotel, New York.
APRIL 16-20—Fleet Supervisor and Management Training Courses, Univ. of Wisconsin, Madison, Wisconsin.
APRIL 19-21—Louisiana Motor Transport Assn. Annual Convention, Bentley Hotel, Alexandria, La.
APRIL 23-27—Fleet Supervisor and Management Training Courses, Univ. of Michigan, Ann Arbor, Mich.
APRIL 26-29—Southwest Automotive Show, Oklahoma City, Okla.
APRIL 30-MAY 4—Fourth National Materials Handling Exposition, International Amphitheatre, Chicago, Ill.
APRIL 30-MAY 11—Course for Trainers of Commercial Drivers, Pennsylvania State College, State College, Penna.
MAY 3-5—Western Highway Institute Annual Meeting, Broadmoor Hotel, Colorado Springs, Col.
MAY 7-9—American Transit Assn. Regional Meeting, Davenport Hotel, Spokane, Wash.
MAY 7-9—American Trucking Associations, Inc. Regional Meeting, Melrose Hotel, Dallas, Texas.
MAY 7-11—Motor Vehicle Fleet Maintenance Supervisor's Course, New York University, Center for Safety Education, Washington Square, New York, New York.
MAY 10-12—Texas Motor Transportation Assn. Annual Convention, Plaza Hotel, San Antonio, Texas.
MAY 11-13—Georgia Motor Trucking Assn. Annual Convention, Hotel General Oglethorpe, Savannah, Ga.
MAY 14-18—Fleet Supervisor and Management Training Courses, Rutgers Univ., New Brunswick, N. J.
MAY 14-19—Fleet Supervisors' Course, Northeastern University, Boston, Mass.
MAY 14-19—American Trucking Association, Spring Meeting, Fairmont Hotel, San Francisco, Cal.
MAY 17-20—Southeast Automotive Show, Birmingham, Alabama.
MAY 21-24—American Transit Assn. Regional Meeting, Lord Baltimore Hotel, Baltimore, Md.
MAY 21-25—Fleet Supervisor and Management Training Courses, Washington Univ., St. Louis, Mo.
MAY 28-JUNE 1—Fleet Supervisor and Management Training Courses, S. Dakota State College, Brookings, S. Dak.
MAY 30-SEPT. 9—World Transportation Fair, Santa Anita Park, Calif.
JUNE 3-8—Society of Automotive Engineers Meeting, French Lick Springs Hotel, French Lick, Ind.
JUNE 4-8—Fleet Supervisor and Management Training Courses, State College of Wash., Pullman, Wash.
JUNE 7-10—Upper Midwest Regional Show, Minneapolis, Minn.
JUNE 14-15—Conference for Top Management of Motor Fleets, Pennsylvania State College, State College, Pa.
JUNE 19-22—American Trucking Assn., National Freight Claim Council, Fort Shelby Hotel, Detroit, Mich.
JUNE 22-23—Pennsylvana Motor Truck Assn. Annual Convention, Penn-Harris Hotel, Harrisburg, Pennsylvania.
JUNE 25-29—Fleet Supervisor and Management Training Courses, Northwestern Univ., Evanston, Ill.
JUNE 29-JULY 1—Maine Truck Owners Assn. Annual Convention, Mt. Kineo Hotel, Moosehead Lake, Kineo, Me.

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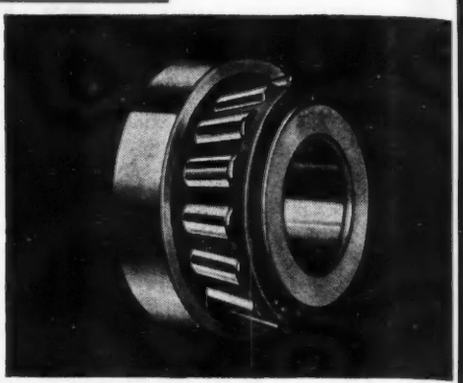
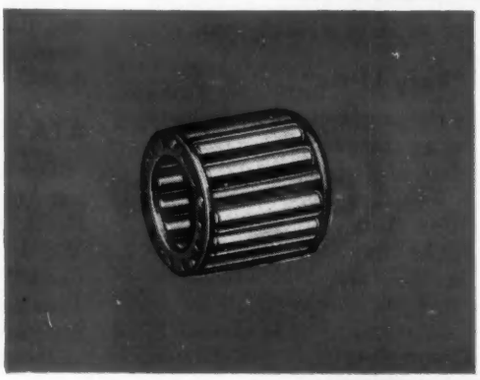
ROLLER BEARINGS

get 'em from your FEDERAL-MOGUL jobber!





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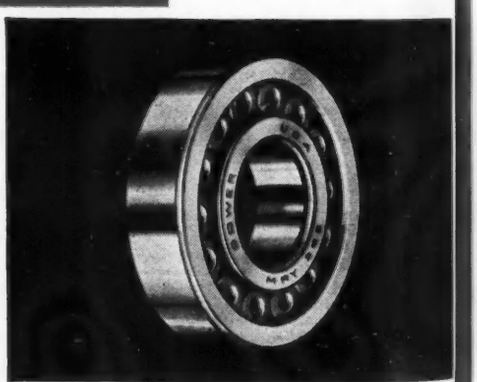
Federal-Mogul jobbers provide Bower's complete coverage of tapered roller bearing applications, plus popular numbers in straight roller bearings. Ask your Federal-Mogul jobber—ask him today!



FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

BEARING
FEDERAL Mogul
SERVICE

CCJ REPORTS

WASHINGTON RUNAROUND

by GENE HARDY Washington Correspondent

New Transport Policy Committee

Defense transportation and storage *policies* will be set by a newly-created Committee on Defense Transportation and Storage operating within the Office of Defense Mobilization. ODM Director C. E. Wilson in setting up the Committee stated that its primary task will be to coordinate Federal policies and program relating to transportation and storage.

Chairman of the committee is Delos W. Rentzel, newly-appointed Under-Sec'y of Commerce for Transportation (succeeding Maj. Gen. Phillip B. Fleming). Other members include representatives of the Treasury, Defense, Commerce, Interior and State Departments, the Defense Production Administration and the Defense Transport Administration.

Actual administration of controls however, remain with the Defense Transport Administration. DTA has now established seven divisions within its internal organization: Railroad Transport, Street and Highway Transport, Inland Water Transport, Warehousing and Storage, Port Utilization, Equipment and Materials, and Manpower.

Tires & Metals at a Glance

The severe shortage of large-size tires that has been plaguing truck-trailer producers moved into the truck industry last month. Both industries tabbed the tire shortage their No. 1 supply problem.

Metals are next on the shortage list. Steel is fast becoming a problem in the truck industry, notably in regard to frames. The trailer producers list the following items in order of scarcity: axles, wheels, aluminum, steel, bearings and plywood.

At press time, it appeared that NPA would take action to get sufficient tires into the hands of truck and trailer manufacturers. On metals, however, it did not seem likely that any major allocation program would be set up for trucks, trailers or buses before the Controlled Materials Plans goes into effect on July 1.

The Defense Transport Administration is pressing NPA for relief from limitation orders for the transport vehicle industry and sufficient data for an allocation program is available. Still, spot relief and assistance from NPA to ease severe hardship cases is all that appears likely at this writing. NPA also urges all industry, including transportation, to dig out iron and steel scrap to help ease the growing scrap shortage resulting from expansion of the steel industry.

Transport vehicles of all types are exempt from the 20 per cent slash in steel which went into effect April 1. Passenger cars and other major consumer durable goods are affected.

Priority Order Cancelled

As the March issue of CCJ was rolling off the presses, the Defense Transport Administration, in a surprise move, revoked its General Order 1, directing motor carriers to give priority to military and atomic energy freight and the mails. It resulted from the tie-up in rail service caused by the winter walkout of railroad switchmen.

It had been expected that DTA would leave this order on the books even though rail service had been restored to normal, since it required nothing from truckers except that they do something that they would normally do in any case. DTA spokesmen say that the order was cancelled because the Dept. of Defense advised that the strike-induced emergency was ended.

Knudson Puts Heat on Governors

Defense Transport Administrator Knudson has told Governors of the 48 States that they must act to reduce artificial barriers to highway transportation in this period of mobilization if they wish to avoid Federal action in this field.

Pointing out that the trucking industry is being called upon to handle an increasing load of military and civilian freight, due in large part to the most acute freight car shortage in history, Mr. Knudson, in a letter to the Governors, stated that restrictive state limitations on the sizes and weights of highway vehicles and lack of reciprocity covering their operations are materially reducing the load capacities of highway transport facilities.

"Unjustifiable state limitations on sizes and weight of motor vehicles, and restrictions intended to harass and burden highway transport to obtain competitive advantages for other modes of transportation, cannot be tolerated in time of national emergency such as this, nor can they be permitted to impede our gigantic defense effort."

Failure on the part of the States to take remedial action, says Mr. Knudson, "will be an invitation to elements of the Federal Government to take the lead in bringing about uniform standards."

The DTA Chief emphasizes that the Office of Defense Transportation during World War II received the cooperation of the States by means of an agreement to adhere to the terms of a so-called "emergency formula" covering sizes and weights of motor vehicles, and to a program of full reciprocity. This formula served in lieu of an Executive Order of the President establishing a Federal uniform minimum standard for sizes and weights of motor vehicles. "This formula

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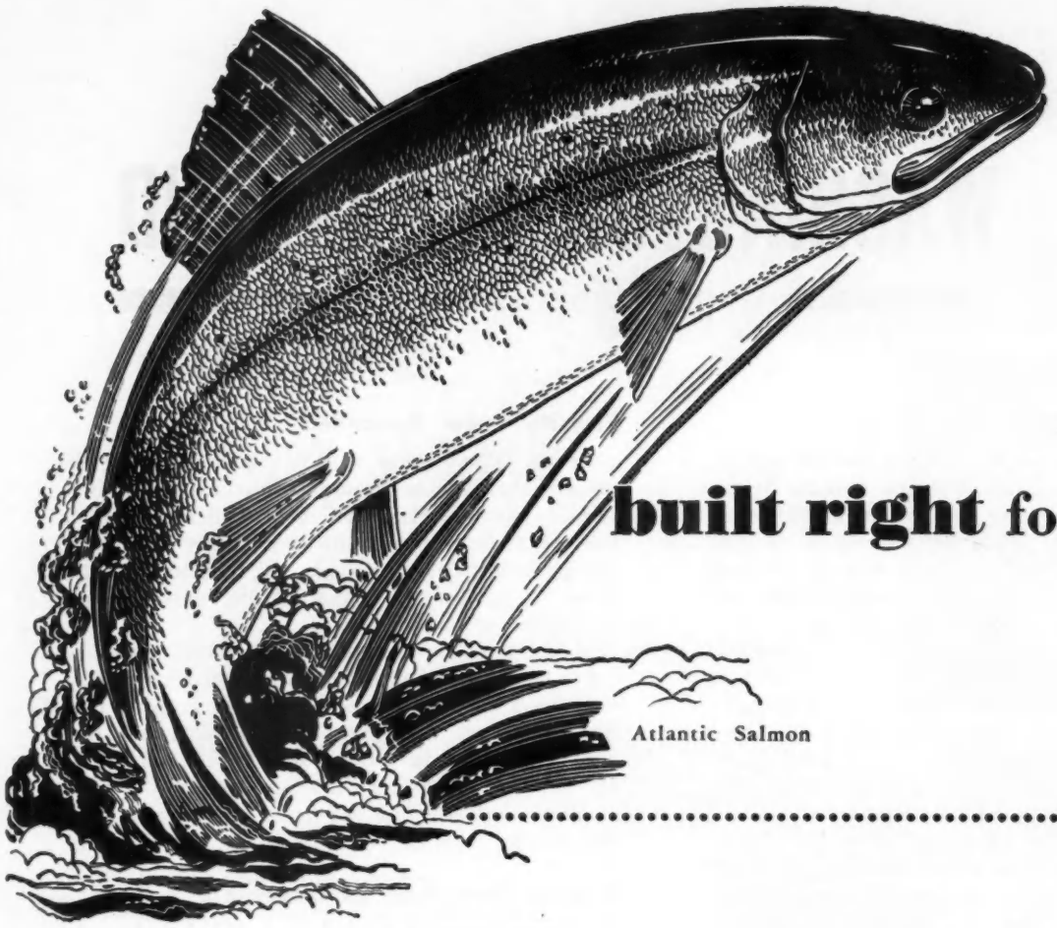

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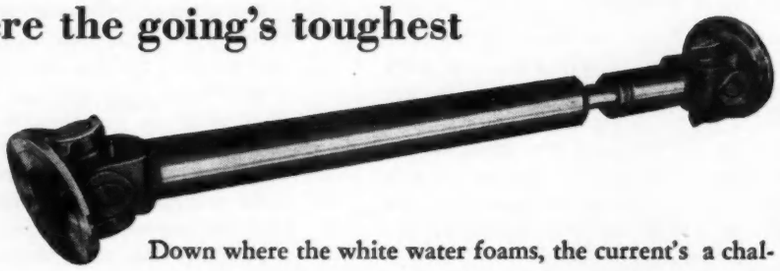

Down where the white water foams, the current's a challenge to the Salmon — for he's built with a fighting heart that's *right* for the rapids. • Out on the highways — in the strip mines — on the tough jobs — you'll find Blood Brothers Universal Joints and Drive Line Assemblies are *built right too.* They're getting the power through under brutal, shock-load conditions . . . on many of the toughest trucking assignments. When you face propeller-shaft problems, call Blood Brothers for engineering consultation.

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Division of Standard Steel Spring Company . . . Chicago Office: 122 S. Michigan

CCJ REPORTS

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

Truck Tire Supply Critical

The supply of truck tires is very tight for both original equipment and replacement use. Tire manufacturers think that the shortage brought on by a combination of restricted use of new rubber and high demand, including some hoarding, will continue critical for at least the next two or three months with the possibility of some easing after that and a return to normal by the end of the year or before. One truck manufacturer has been compelled to equip about 10 per cent of its units with mud, snow, and other special tread tires, but is channeling these to buyers of dump, off-road, and some farm trucks. Trailers are particularly hard hit by the tire shortage, with some already standing around tireless in manufacturer's branches. Some are sold to buyers who supply their own tires, to be replaced later by the trailer manufacturer.

Less Natural Rubber

A new rubber order effective March 15 will result in lower natural rubber content for most truck tires, but is flexible enough to permit tire builders to keep percentages of natural rubber in large over-the-road sizes high enough for satisfactory service. Average percentage of crude allowed by sizes are as follows: 7.50 down, 38; 8.25 through 9.00, 75; 10.00 through 12.00, 90, and over 12.00, 92. However, manufacturers are permitted to exceed these contents up to 99 per cent in large sizes, provided they make adjustments in other sizes and lines so that of total usage of natural does not exceed their quota. Truck tires using the higher percentage of synthetic are much better than the old S6 used during World War II and are satisfactory for normal usage, according to tire industry spokesman, but not under conditions of overloading and excessive speeds. Truck tires will fare better than passenger car casings in both quality and percentage of production. The situation might improve within a few months, especially if world conditions prompt the government to ease its stockpiling of natural rubber.

Truck Production High

Truck production continues to boom along at a near record rate whereas passenger car production is falling behind last year by from 10 to 20 per cent for individual companies. Although official production figures for March were not in at press time, all indications were that truck production was very close to the all-time record levels of 135,000 set last August. Included in the total, of course, are military trucks which for security reasons are not separated, but the number is not too great at present indicating that the supply for civilian use is nearly as plentiful as it was a year ago. Truck companies report an intense demand for trucks, with the principal problem now being enough materials to fill orders. There has been evidence that with war fortunes in Korea on the upgrade, high Washington officials are tempering the urgency of demands on materials. If that continues there is a likelihood that 1951 will wind up as a record production year for trucks, exceeding the highmark of 1,376,155 units produced in 1948.

Operators Leery of DO-97

Fleet owners are authorized to use priority ratings to obtain repair parts under NPA Regulation 4, but many are cautious about doing so. The reason is that once an operator uses the DO-97 (defense order) ratings on his purchases, such parts come under a quota which limits him in each calendar quarter to one-quarter of the dollar value of parts he bought last year. Thus, with higher prices prevailing, he probably would be able to buy fewer parts than last year and many are preferring to take their chances on obtaining the needed repairs rather than to impose a ceiling on the amount they can buy.

Parts Shortage Spotty So Far

There is some confusion about the status of a replacement parts supply and outlook for the rest of this year. Spotty reports of shortages of truck parts indicate that in some areas supplies are limited but the overall present problem appears to be one of dislocation in distribution. Generally sheet metal items are very scarce and some functional parts are very tight. Field inventories are being depleted at a faster rate than parts are flowing to them, possibly because of material shortages at the point of manufacture. However, the government is moving to make certain materials are available to make enough functional parts, at least, to keep the transportation system moving. In short, it looks as though there will be spotty and temporary shortages of certain parts but that in the main enough will be available for essential use.

Alloy Substitutions Coming

Because of the defense program, truck and car manufacturers are being forced into a substitution program on alloy steels. An interim type alloy will go into use soon and probably will be followed by a later type using boron as a hardening agent with lower contents of molybdenum, nickel, and tungsten. Tests are now being made on these steels, but it is too early for any conclusive report about their suitability for truck parts. There is some question about their use in pinions and high reduction axles. Some companies have had experience with boron steels since the end

(TURN TO PAGE 170, PLEASE)

561 "ports of call" each day

Commercial Motor Freight, Inc., with headquarters in Columbus, Ohio, operates a fleet of more than 1000 trucks that log millions of miles a year. Commercial maintains 19 major terminals in Ohio, West Virginia and Indiana, serves 561 communities direct each day, employs more than 1600 people. A complete maintenance shop and ten garages throughout the system keep this tremendous fleet in top-notch operating condition. Naturally, when bearing replacements are necessary, Commercial looks to the leaders—orders SKF Ball and Roller Bearings from Ohio Ball Bearing Company. Maintenance men, who service hard working equipment like Commercial's, know SKF Bearings have extra stamina, extra service, extra long life built right in them. Your SKF Distributor gives you these same plus values that mean lower-maintenance, more profitable operation. 7231

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
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surface finish
product uniformity
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field service

SKF
BALL AND ROLLER BEARINGS

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of SKF *and* HESS-BRIGHT *bearings.*

HANDSOME HERBIE, OUR CITY CARTAGE DRIVER, SAYS THAT IN ORDER TO BE POPULAR WITH THE GIRLS, A FELLOW HAS TO KNOW WHEN TO DO THE WRONG THING AT THE RIGHT TIME.

CCJ

The local driver for a southern motor carrier was delivering a package of freight to a mountain woman in the Tennessee hill country. Observing several small children at play in the yard, he commented politely on their healthy good looks.

"Yeah, they're right 'pert' younguns, all nine of 'em. This here bundle you brung is got a new outfit in it for the tenth, I'm expectin', Gosh, I shore am tired of having babies," replied the hill woman.

"Then why don't you stop?" queried the local driver.

"Only way I know of to keep the littlest from bein' spoilt," she explained.

CCJ

Terrific Ted, our moving van driver, says: "No wonder the quality of shoes is on the down grade—all the good leather is going into steaks, these days."

CCJ

The Shop Foreman's young wife was entertaining her Canasta club one afternoon when her small daughter, Judy, burst into the room.

"Oh, Mother!" she cried. "There's a strange man in the kitchen and he has the maid in a corner, hugging her!"

"Good Heavens!" exclaimed the Shop Foreman's wife. "You'll have to excuse me for a moment, ladies . . ."

"Don't go, Mother!" screamed little Judy, delightedly. "I was fooling. It isn't a stranger at all—it's only Daddy!"

CCJ

Fatty Floorboarder, the leadfooted road driver, says it's been so long since he's seen 'em, he can't remember whether or not ladies garters come in all thighzes.

CCJ

TRAFFIC POLICEMAN: "WHY DID YOU KEEP ON GOING AFTER I WHISTLED?"

CITY DELIVERY DRIVER: "SORRY, I'M JUST A LITTLE BIT DEAF."

TRAFFIC COP: "WELL, DON'T WORRY. YOU'LL GET YOUR HEARING IN THE MORNING."

The bachelor fleet owner was enjoying an outing at the amusement park with his latest blonde flame:

Blondie: "Oh, dear boy, you shouldn't have kissed me like that just now in the Tunnel of Love. What if some of those other people saw you?"

B.P.R.M.: "I didn't kiss you. But if you find out who did, I'll sure teach him a lesson."

Blondie: "Ah, lover, you couldn't teach that guy nothing!"

CCJ

The traveling auditor for an eastern motor carrier got on the bus at an upstate New York town. He took the only seat remaining—next to a man who had evidently been imbibing. The auditor sat there quietly for a spell, then began to sniff the air disapprovingly. At last he made his way up front and addressed the driver.

"Do you," he asked in an outraged manner, "allow drunks to ride on this bus?"

"Not ordinarily," the driver whispered. "But just ease on back to your seat and keep quiet. If you hadn't told me, I would never have noticed you."

CCJ

WEAVIN' WILLIE, OUR CITY DRIVER, SAYS: PATIENCE IS THE ABILITY TO IDLE YOUR MOTOR WHEN YOU FEEL LIKE STRIPPING YOUR GEARS.

CCJ

Safety Sadie: "What do you mean when you say your boy friend Herman is always getting his locations mixed up?"

Catty Cora: "Well, he's always mistaking the back row of the neighborhood movie for a pet shop!"

CCJ

CLUMSY PARTS CLERK: "I'M DANCING WITH YOU TONIGHT AND I SUPPOSE TOMORROW YOH'LL BE HAVING A DATE WITH SOME OTHER FELLOW."

GIRL FRIEND: "YES—MY FOOT DOCTOR."

CCJ

Blonde: "I want to see that truck mechanic who was hurt in the auto accident last night."

Nurse: "Are you the girl who was with him?"

Blonde: "Yes, I thought it would be the right thing to do to come over and give him the kiss he was trying for, when the car went out of control."

BUS DRIVER: "WE SURE HAD A GOOD TIME LAST NIGHT FOR ONLY TWENTY-FIVE CENTS."

GIRL FRIEND: "YES, AND I WONDER HOW MY LITTLE BROTHER SPENT IT."

CCJ

The Traffic Rate Clerk met up with a cute red head in a quiet little bar off the main stem. After accepting his offer of a drink, they went out "on the town" for an evening of fun. When he escorted her to her home in the wee hours of the morning, she paused at her front door and purred: "Goodness, honey boy, it was certainly a lot of fun NOing you."

CCJ

LUSCIOUS LULU, THE DISTURBING ELEMENT IN OUR OFFICE, SAYS THAT: A GAL SHOULD WEAR JUST ENOUGH CLOTHES TO KEEP A MAN WARM.

CCJ

Steno Lou: "What did Mabel do when her husband came home unexpectedly?"

Steno Sue: "She let out a terrified sheik!"

CCJ

BRAKE SPECIALIST: "THEY SAY YOU WERE A HOWLING SUCCESS AT THE PARTY LAST NIGHT. HOW'D YOU GET YOURSELF IN THAT STATE?"

IGNITION SPECIALIST: "WORKED MY WAY FROM BOTTOMS UP!"

CCJ

The City Delivery Driver was cruising along in the slow lane on a busy downtown thoroughfare, when all of a sudden without warning a woman in a sleek sedan made a right hand turn from the left hand lane and smashed into his truck. His patience at the breaking point, yet trying to be polite, the City Truck Jockey got out of his unit, turned to the woman driver and said: "Lady, why didn't you give just one teency weency little old signal. Huh! Why didn'tcha?"

"Because," she snapped, "I always turn here, stupid!"

CCJ

First Truck Mechanic: (All bent over) "Darn that new health tonic, anyhow, I wish I'd never seen a bottle of it."

Second Truck Mechanic: "If it affects you that way, whatcha takin' it for?"

First Truck Mechanic: "Dadburn it, I ain't takin' it—my wife is!"

Resume Work

"On Call"—Hansen for 24-Hour Service

HANSEN
HARDWARE for Commercial Bodies

Side view of unit showing compartments. Compartment doors fitted with Hansen Locks.

Gerstenslager Puts Hansen Hardware "On Call" with Galena Fire Department

READY for instant, continual service, this Galena Fire Department (Illinois) emergency squad unit was built by The Gerstenslager Co., Wooster, Ohio, noted builders of custom van and standard stake bodies, as well as bodies of special design.

Long users of Hansen Hardware, Gerstenslager equipped this unit with Hansen Locks—Hansen No. 55 Lock on left compartment doors—Hansen No. 110 with No. 120 bolts on right compartment door and rear doors—and No. 46 on tool boxes.

Ruggedly built to withstand severe commercial body use, Hansen Hardware is simple in design, easy to apply, and often outlasts the body on which used. Be sure the bodies you design, build or use are Hansen-equipped.

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A. L. HANSEN MFG. CO.
5047 Ravenswood Ave.
CHICAGO 40, ILL.

No. 55

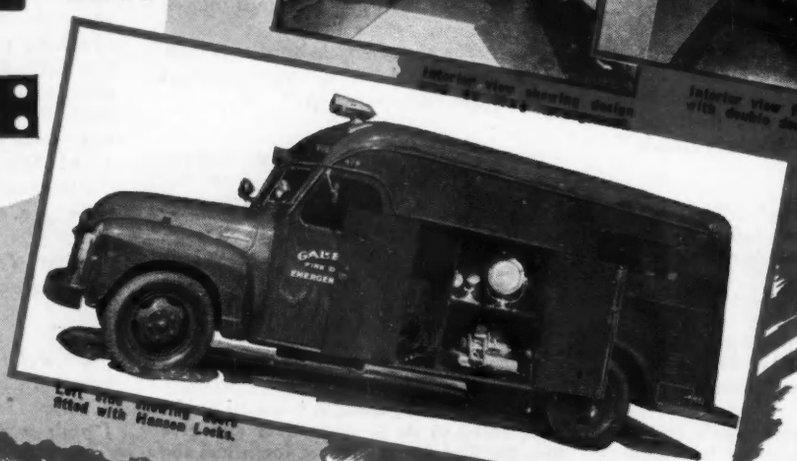
No. 46

No. 110

Rear view showing Hansen No. 110 Lock with door-and-hatch bolt.

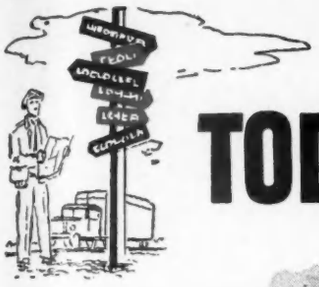
Interior view showing door

Interior view facing rear with double doors closed



Left side showing doors fitted with Hansen Locks.

Ask for CATALOG



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a SUN diagnosis program will...

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With current material and manpower shortages, it is more important than ever before that you adopt a program which will insure peak efficiency in both vehicle operation and shop practices. SUN has such a program, tried, tested and proven—ready to go to work for you now! SUN will furnish the equipment, the operating procedures and the necessary training for your operators—all in one package. Service and training facilities provided by SUN have no equal anywhere in the world. One of the 300 SUN Representatives near you will be glad to call and explain this program to you. He will be glad to study your particular problems and make recommendations—without cost or obligation. Write TODAY for full information on the 6 Ways to Save... the 6 Ways to Keep 'Em Rolling!

R-5412

DIAGNOSIS SUN EQUIPMENT

Sun

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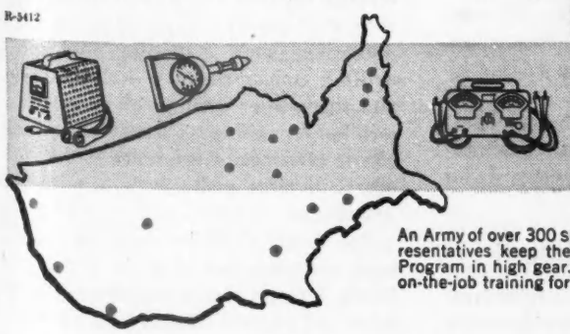


An Army of over 300 SUN Field Representatives keep the SUN Testing Program in high gear. They provide on-the-job training for thousands of mechanics yearly... they service equipment and keep a constant check on the efficiency of scientific testing procedures. To insure a constant supply of highly skilled advanced operators, SUN also maintains 17 strategically located Technical Training Schools.

FREE PUBLICATIONS

FOR YOUR CONVENIENCE USE THIS POSTCARD

A selected list of the latest literature — catalogs, pamphlets, charts—chosen to help fleetmen improve operation and maintenance.

L76. Brake Service Guide

Available now to the fleet shop in a new edition is this Raybestos Brake Service Guide for Fleets, designed to provide complete repair and adjustment data for nearly every model and type of brake used on trucks. With 60 pages filled with practical information every shop needs, this booklet will be useful to all mechanics. The data is printed in easily-read form and is complete with detailed photographs and drawings of the various model brake assemblies.

Beginning with a comprehensive trouble shooting chart, this manual shows common troubles of five types of brakes and provides remedial instructions. Part of the booklet is devoted to basic fundamentals of brake service. Hydraulic brakes, brake drums, principles of balanced brakes are discussed in detail. Practical maintenance tips are also given for air brake systems.

This booklet is a must for the brake department. It will make an excellent reference for the seasoned mechanic, and it will be invaluable in the training or retraining of apprentices. Write L76 on the postcard for your book.

L77. Oil Pressure Study

The March issue of Lubrication features an article on the subject of Engine Oil Pressure. While somewhat technical in nature, the article contains information that will be found valuable in fleet circles. Purpose of this discussion is "to provide information on engine oil pressure to better understand why it varies and the significance of this variation; also to review some details that have a bearing on lubrication system design."

In this vein the author discusses various types of lubricating systems, instrumentation, factors affecting oil pressure and includes graphs showing the effect of viscosity, temperature, engine speed upon the oil pressure. He concludes with an interesting chart showing various conditions in an engine affecting the oil pressure.

Here is good sound, technical background for your technically minded men. Write L77 on the postcard for your copy.

L78. Clutch Adjustment

Here is one of the handiest references ever designed for the convenience of the mechanic. It is a 24 x 36-in. wall chart providing adjustment data for 76 models of the Lipe-Rollway clutch. Printed on heavy coated stock that is grease and dirt resistant, this two-color wall chart can be hung over the work bench or the service area and will save hours of time over a period of years by permitting quick reference in place of the mechanic's having to consult the vehicle manual.

Complete adjustment data is provided for the shim type L-R clutch. Model number, size, adjustment dimension, quantity of shims used, flywheel depth and facing thickness are listed in easy-to-read columns of large, heavy type face. Illustrations show exactly how this adjustment is made with a step-by-step procedure that can be followed by even the novice.

This chart is a clutch maintenance course in itself. It should be on the walls of every fleet using the Lipe-Rollway clutch. Write L78 on the opposite postcard for your free copy.

L79. Electric Drill Data

This new 36-page pocket-size booklet, entitled "More Holes in a Hurry," has been published in the interest of improving the skill of the mechanic with the electric drill. Providing a complete working knowledge on the care, use and versatility of this handy power tool, this illustrated booklet will prove of interest to every shop man.

Special emphasis has been placed on the industrial and agricultural applications of portable electric drills, with several sections devoted to a step-by-step explanation of technical drilling operations, such as drilling pilot holes, drilling concentric in a scribed circle, and the proper drilling of various materials. A number of handy tables and charts give instant reference to the various drill sizes and speeds required to get the job done.

This booklet will be useful as a reference for every mechanic in your shop. Write L79 on the accompanying postcard and make it available to them.

NEW PRODUCTS

FOR YOUR CONVENIENCE USE THIS POSTCARD

Illustrating and reviewing newest developments in parts, accessories, shop equipment and tools. For more information use the attached postcard.

P162. Electric Drill

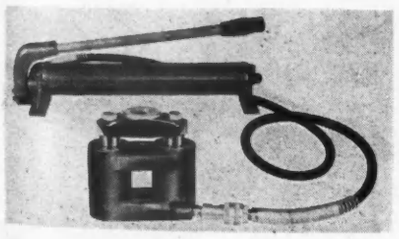
This ½-in. drill, made by Cummins Portable Tool Co., Chicago, is equipped with anti-friction bearings and is designed for heavy-duty service. It will drill through ½-in. metal, 1½ in. of hard wood, has a speed of 550 rpm, a universal motor for 115-220 ac-dc current and is equipped with double reduction gears, a Jacobs geared chuck, and an aluminum frame. The drill weighs 8½ lb and is 13⅝ in. long.

P163. Clearance Lights

A new design of clearance light has been introduced by J. W. Speaker Corp., Milwaukee. Called the "Jetland Rocket Lites," it is said to be suited for mounting on any curved surface, eliminating the bar-type arrangement. It is of die cast construction, bright finish, with 2½-in. lens in red, amber, or clear.

P164. Hydraulic Pullers

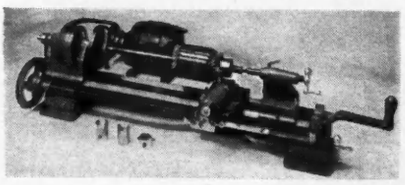
If you want 15 tons of power in a pulling tool, the new unit just announced by Owatonna Tool Co., Owatonna, Minn., will develop that for you. It weighs less than 10 lb, is 15½ in. high and it works in any position.



The ram travels 2 in. which is adequate for 95 per cent of all pulling jobs, while another bite takes care of the balance. It works from a remote control pump which develops 10,000 psi. Six ft of high pressure hose allows the operator to stand a safe distance from the work. Wire guards protect the hose and the couplers are tested for 24,000 lb.

P165. Armature Lathe

Equipped to turn centerless armatures, the new lathe designed by Hamilton Products Inc., Cleveland, Ohio, has a bed length of 26 in. with a cutting range up to 18½ in. The cutting unit



swing is 6 in., with a compound swivel of 360 deg on a center pilot locked with T-slot bolts.

The lathe operates on a ¼ hp 1750 rpm motor of standard input. The lathe accessories include one hand undercutter and lever hand feed, two female centers for centerless armatures, two male centers, a driving dog, V-belt, two power feed belts, a tool bit, and a face plate and dog. The lathe may also be used for straight or taper turning of either metal or wood.

P166. D.C. Arc Welder

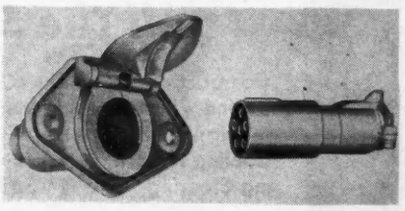
Two new model DC arc welders are being produced by Miller Electric Mfg. Co., Appleton, Wis. One model has a range from 40 to 250 amps, the other from 60 to 375 amps. They are of the selenium rectifier type.

The manufacturer promises economy and maintenance advantages in addition to mechanical and operational features. For example, the set is said to have instantaneous voltage recovery, and will produce greater arc flexibility with lower starting current.

The manufacturer also points out other advantages in these models, including better visibility and control of amperage indicator. The welder operates on 220/440 v 60 cycle AC current.

P167. Trailer Connectors

Berg Mfg. Co. announces a tractor-trailer connector with a double safety lock which provides a safety latch to meet ATA specifications. The double



feature of the lock guarantees that the truck-trailer's lights will work even though one of the locks may become damaged. It also provides a positive locking action which will operate under icing or dirty conditions. This connector in no way obsoletes earlier models, the manufacturer states.

(TURN TO PAGE 262, PLEASE)

Now proof of GMC Diesel economy:

HIGHWAY HAULER

"Your estimate of GMC Diesel savings far too conservative"
—says Mr. L. C. Knowles

GENERAL TRAFFIC MANAGER, COLLINS & AIKMAN CORPORATION

These Features Tell The Story

Compact, Lightweight GMC Two-Cycle Engine • Five-Speed Synchro-Mesh Transmission • No Double-Clutching • Self-Cooling Air Brakes • Easy-Turn Ball-Bearing Steering • 2½¢ Savings Every Mile

"Get a real truck"

COMMERCIAL CAR JOURNAL'S
NINETEEN FIFTY-ONE
FLEET OPERATORS'
REFERENCE ANNUAL

SECTION 1

TRUCK and BUS MAINTENANCE

AS one of its major contributions to the mobilization effort, Commercial Car Journal presents this 15th Edition of its Fleet Operators' Reference Annual. In the maintenance section alone, which begins on this page, will be found 56 pages of factual data designed to help the fleet maintenance man keep his vehicles in efficient operation. All of the data has been brought up to date with the direct cooperation of manufacturers involved.

MAINTENANCE INSTRUCTIONS

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MAINTENANCE CHARTS

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WEAR LIMIT Charts and Data

. . . Covering operating tolerances and adjustment data as recommended by manufacturers for pistons, rings, sleeves, cylinders, bearings, valves, clutches, axles and brakes.

PISTONS, RINGS, PINS

Piston Ring Size

The correct ring size is determined by the smallest cylinder measurement, which will be found by miking below the ring travel. Consult following table to see if ring gaps must be filed to fit odd cylinder sizes.

SMALLEST CYLINDER MEASUREMENT	USE RING SIZE	END CLEARANCE FITTING
Std. to .009	Std.	None
.010 to .019	.020	File Fit
.020 to .029	.020	None
.030 to .039	.030	None
.040 to .049	.040	None
.050 to .059	.060	File Fit
.060 to .069	.060	None
.070 to .079	.080	File Fit
.080 to .089	.080	None
.090 to .099	.100	File Fit
.100 to .109	.100	None
.110 to .119	.120	File Fit
.120 to .129	.120	None

Ring Side Clearance

Aluminum Pistons	Cast Iron Pistons
.0015 to .002 top groove	.002 to .0025 top groove
.001 to .0015 lower grooves	.0015 to .002 lower grooves

Ring grooves worn to excessive side clearance should be reconditioned and groove fillers installed. Check pistons for worn grooves and if more than .005 side clearance exists, recut grooves to the next ring width and use a .024 or a .030 wide groove spacer.

Note: The Piston Ring Industry Group has standardized on a ring width tolerance of .0005 and a groove width tolerance of .001 and when these two specifications are combined the resultant side clearance tolerance for torsional type compression rings is .0025 to .004; for regular compression rings .002 to .0035; and for oil rings .0015 to .003 in all diameters from 2 to 3 15/16.

Piston Ring End Clearance

Diameter of Cylinder	Minimum End Clearance	Maximum End Clearance
0— 1 31/32	.005	.013
2— 2 31/32	.007	.017
3— 3 31/32	.010	.020
4— 4 31/32	.013	.025
5— 6 31/32	.017	.032

These tolerances are held in the standard cylinder diameters and if there is any cylinder wear, the maximum permissible gap will increase proportionately.

Piston ring end clearance should always be measured at the smallest part of the cylinder bore, usually at the bottom of the cylinder below the ring travel. If ring end clearance is in excess of the maximum, a ring .010 in. larger in diameter should be used and the end clearance adjusted.

Cylinder Wear

TYPE SET	MAXIMUM TAPER	MAXIMUM OUT OF ROUNDNESS
Plain	.003	.001
Expander (cast iron)	.006	.002
Expander (steel oil)	.012	.004

Where the cylinder taper does not exceed .005 in., the so-called rering job will generally give satisfactory results with conventional compression and oil rings.

Where the cylinder taper is in excess of .005 in. —and if it does not exceed .010 in.—and it is impractical to recondition the engine, a rering job will generally give satisfactory results with spring type rings.

(Expander sets in cast iron for rebore jobs and steel for rering jobs can be used in up to .012 cylinder taper.)

Any cylinder with over .015 in. taper and .004 in. out of roundness should be rebored even though the rings are designed to operate in much greater tapers. Maximum out-of-roundness permissible is .005 in. If the cylinder has holes or pockets or waves which are more than .001 in. deep, or a ridge at the bottom of the ring travel area, the cylinder should be rebored.

Cylinder Finish

Recommended cylinder finish in all rebore, rering and resleeve installations is 15 to 30 microinches RMS. with a cross hatch pattern of scratches. In rebore and resleeve installations the use of a 200-250 grit hone stone is recommended. Hone must be allowed to cut-self free with no pressure upon removal. In a rering installation the recommended finish can be obtained by using a deglazer with 3/0 emery cloth or by using a flexible hone with stones no finer than 220 grit.

Piston to Cylinder Fit

If the piston skirt diameter is such that the clearance between it and the smallest diameter of the cylinder is 1½ times as much as the clearance recommended by the manufacturer, the pistons should be resized. Pistons should always be resized before piston pin holes are reamed for replacement pins.

Piston Clearance

Cam "A"—Chevrolet Six cast iron pistons must be cam ground with cam "A". Any cast iron piston in the automotive range can be cam ground with cam "A" at the option of the user. Use the following clearances when finishing either round or with cam "A":

Cyl. diam.	3	3¼	3½	3¾	4
All lands	.012	.013	.014	.015	.016
Skirt	.003	.00325	.0035	.004	.0045
Cyl. diam.	4¼	4½	4¾	5	
All lands	.017	.018	.019	.021	
Skirt	.00475	.00525	.00575	.00625	

Cam "B"—Ford "A" and "V8" pistons, and all pistons of the all-aluminum type having a split skirt completely open from top to bottom, use cam "B". Use the following clearances when grinding round. Skirt clearance should be cut in half when using cam "B":

Cyl. diam.	3	3¼	3½	3¾	4
All lands	.020	.021	.023	.025	.027
Skirt	.00225	.0025	.00275	.00325	.0035
Cyl. diam.	4¼	4½	4¾	5	
All lands	.030	.033	.036	.039	
Skirt	.00375	.004	.00425	.0045	

Cam "C"—Must be used on all T-slot or U-slot flexible skirt all-aluminum pistons, having a solid section at bottom of skirt, from 2¾ to 3 7/16 in. diameter.

Cam "D"—Must be used on all T-slot or U-slot flexible skirt all-aluminum pistons, having a solid section at bottom of skirt, from 3½ to 4 15/16 in. diameter.

Use the following clearances with both cam "C" and "D":

Cyl. diam.	3¼	3½	3¾	4
All lands	.021	.023	.025	.027
Skirt	.00175	.002	.00225	.0025
Cyl. diam.	4¼	4½	4¾	
All lands	.030	.033	.036	
Skirt	.00275	.003	.00325	

Cam "E"—Must be used on Nelson Autothermic pistons. Same shape as cam "B" but with .013 in. drop at pin which is necessary because of the solid skirt. Also use "E" on all U-slot pistons.

Cam Finishing

This method of piston finishing produces longer piston and ring life and most quiet piston operation. The various piston types require different cams for finishing as illustrated. These cams, together with the piston grinding machine, produce the correct piston contour and correct clearance at the piston pin bosses. Clearance on the piston thrust faces is controlled by the operator.

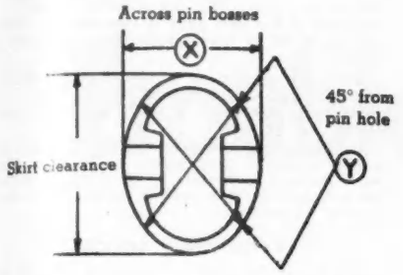
The data indicates the recommended clearance per inch of piston diameter. This data is supplied for both cam grinding and where the skirt is ground round. In either case the ring grooves are ground round and the clearance per inch of diameter is indicated in the clearance chart. "Lo-Ex" alloy has a lower coefficient of expansion than other aluminum alloys, and consequently, in using these figures for other aluminum pistons, 20 per cent more clearance should be provided.

Clearance Chart

(ALLOY AND CAST IRON PISTONS)

1. Skirt clearances are indicated as minimum clearances.
2. Pistons should be measured with pin removed. Heat piston before removing pin and allow sufficient time for piston to return to room temperature.
3. All pistons should be ground to a sharp edge at the open end of the skirt.
4. Pistons to be tin-plated should be ground to regular clearances and then plated with tin .000 thick on pistons smaller than 4 in. diameter and .00 thick on pistons larger than 4 in. diameter.
5. Pistons should be installed so that the "FRON stamped on the head points to the front of the engine.
6. Break corners of all ring grooves .005 to .010 45 deg. with a file when finishing a piston.
7. Chamfer top of skirt 1/32 x 45 deg. when finishing a piston.

The following companies have cooperated with CCJ in supplying up-to-date wear limit data for this section: Aluminum Company of America; Eaton Mfg. Co.; Federal Mogul Corp.; Hastings Mfg. Co.; Koppers Co., Inc.; Lipe-Rollway Corp.; McQuay-Norris Mfg. Co.; Monmouth Products Div. Cleveland Graphite Bronze Co.; Moog Industries, Inc.; Ohio Piston Co.; Perfect Circle Co.; Ramsey Corp.; Sealed Power Corp.; Spicer Mfg. Co.; Thermoid Co.; Thompson Products, Inc.; Toledo Steel Products Co.; United Engine & Machine Works; U. S. Asbestos Div. Raybestos-Manhattan, Inc.; Wel-Ever Piston Ring Co.; Wilkening Mfg. Co.



CAM	DIAM. REDUCED AT X	DIAM. REDUCED AT Y
A	.005 to .007	.001 to .002
B	.006 to .008	.003 to .004
C	.009 to .011	.008 to .009
D	.012 to .014	.010 to .011
E	.013 to .015	.0065 to .0075

Note: On new numbers where specific grinding information is not given on this chart, select a piston of similar type and diameter and give the new piston the same clearance.

After cam grinding pistons check the diameters at X and Y as shown above to be sure the pistons have the proper reduction in diameter at these points.

Thrust Face and Ring Land Clearance

PISTON TYPE	FOR CAM GRINDING: Cam No.	FOR CAM GRINDING: Thrust Face Clearance Per Inch of Piston Diameter at Skirt Open End	RING LANDS: For Pistons Ground Round Clearance Per Inch of Piston Diameter	RING LANDS: Clearance Per Inch of Diameter Ground Round: Top Land	Second Land	3rd & 4th Lands
Cast Iron for Passenger Cars	A	.0004 to .0006	.0007 to .001	.005	.003	.002
Cast Iron for Trucks-Tractors	A	.00045 to .00065	.00075 to .0015	.006	.004	.003
Trunk Type Solid Skirt, Aluminum Lo-Ex up to 3⅜ diam.	C	.001 to .0015	.002 to .0025	.007	.005	.004
Trunk Type Solid Skirt, Aluminum Lo-Ex 3⅜ diam. to 6"	D	.0015 to .002	.003 to .0035	.007	.005	.004
Lo-Ex Split Skirt	B	.0003 to .0005	.0006 to .00075	.007	.005	.005
Lo-Ex Split Skirt Heavy Duty	B	.0003 to .0005	.001 to .00175	.007	.006	.005
Lo-Ex T & U Slot to 3⅜ diam.	C	.0003 to .0005	Must be cam ground	.007	.005	.005
Lo-Ex T & U Slot 3⅜ diameter to 5" diameter	D	.0004 to .0007	Must be cam ground	.007	.005	.005
Nelson Patent Single Control Narrow Strut Lo-Ex	B	.0003 to .0005	.0006 to .00075	.007	.006	.005
Nelson Patent Broad Strut Lo-Ex	B	.0003 to .0005	.0006 to .00075	.007	.006	.005
Nelson Patent Double Strut Lo-Ex	D	.0005 to .0007	.0006 to .00075	.007	.006	.005

Piston Pin Clearance

(Passenger Car)

Pin fits naturally depend upon the accuracy and percentage of bearing surface in the pin hole. The more accurately a pin hole is finished, the looser the pin will feel with the same clearance.

When rod bushings are finished on up to date equipment, a slight clearance for an oil film should be allowed. A properly fit pin will almost drop through the rod bushing of its own weight when tried dry, but will have a drag when oiled.

PASSENGER CAR SERVICE

Pin Type	Aluminum Piston	Cast Iron Piston	Connecting Rod
Full Floating	Heavy one thumb fit dry in both bosses.	Slide fit dry. Hang fit oiled.	Slide or creep fit dry. Hang fit oiled.
Oscillating—In Bushed Piston		Slide fit dry, hang fit oiled, in both bosses.	Slide or creep fit dry. Hang fit oiled.
Oscillating—No Bushing	Slide fit dry, hang fit oiled, in both bosses.	Absolutely free drop fit dry, in both bosses.	Slide or creep fit dry. Hang fit oiled.
Set Screw Type	Set screw side: Medium tap fit oiled. Free side: Slightly looser due to slotted pin.	Set screw side: Light tap fit oiled. Free side: Slightly looser due to slotted pin.	Slide or creep fit dry. Hang fit oiled.

HEAVY DUTY OR TRUCK AND TRACTOR SERVICE

Full Floating	Palm push fit dry in both bosses.	Use pin fits shown for passenger car service.	Slide or creep fit dry. Hang fit oiled.
Oscillating—No Bushing	One thumb fit dry in both bosses.		

NOTE: When type of service is not known fit pins for passenger car service.

Sleeves

Dry Sleeve Fitting

DRY TYPE WITHOUT FLANGE

Sleeve must have press fit in block of .0005 (½ thousandth) per inch of bore dia.: thus a 3 in. O.D. sleeve will have .0015 press, a 4 in. O.D. sleeve will have .002 press, etc.

Before boring block find actual O.D. of sleeve in this manner: (a) Mike the sleeve O.D. in three places 120 deg. apart at top and bottom. (b) Add all 6 readings together and divide by 6. This will give you the actual O.D. from which to figure boring size in block. It is best to do this after cutting sleeve to proper length. Always cut off the end opposite the inside chamfer.

Locate boring bar centrally by "cats paws" or other means given in instructions with you bar.

Do not attempt boring to size with one cut. Follow instructions given with bar you are operating. In any case the final cut should not exceed .040 on diameter in order to end up with a hole which is straight, round and to predetermined size.

Round off bottom outside corner of sleeve and upper corner of block with a fine file. This is necessary to prevent galling during installation.

If entire block is to be sleeved, do not bore or sleeve each cylinder in succession as strains may be set up which will distort the block. Start with No. 1 and do all odd numbers, then come back to No. 2 and complete even numbers.

DRY TYPE WITH FLANGE

After removing old sleeve, hone out block from .001-.0015 (one to one and one-half thousandths) larger than actual sleeve O.D. After honing, clean out bore and try sleeve fit. You should be able to insert up to ½ of sleeve by hand push. Clean all scale or dirt from counterbore in block. Turn sleeve upside down and set in counterbore to make sure the flange fits properly.

Round off lower outside corner of sleeve and top of block bore with a fine file. Apply coat of metallic seal to sleeve O.D. Line up any cut-outs on sleeve and push quickly into place. Tap sleeve lightly with rawhide or plastic hammer to make sure it is all the way down.

In event the block is not sleeved originally, bore block. Find the actual size of flange O.D. and counterbore block .005 (five thousandths) larger. The depth must be the same as the width of flange.

After installation—check bore size and finish if required. Wipe off all surplus sealing compound from inside of block.

FINISHING

Bore semi-finished sleeves to within .001-.002 (one to two thousandths) of finish size desired.

Rough hone to within .0005-.001 (one-half to one thousandth) of finish size. Use a fast and steady up-and-down movement of hone so as to produce stone marks with a well defined diamond shaped pattern. Expand stones gradually—don't use excessive pressure as you are apt to rupture the granular structure of the surface metal. When stones "squeal" the pressure is too great, the stones are loaded or both. Dress off face of stones with another stone or a very fine file. It also helps to relieve the trailing edge of the stones similar to the back clearance of a lathe tool.

Change stones and finish hone to final size. If your hone is one designed to be operated dry, follow instructions given by manufacturer.

Roughing stones suggested for wet honing.
(a) Unhardened sleeves & blocks: C150 JV or KV; C180 JV or KV
(b) Hardened sleeves: C100 JV or KV; C120 JV or KV

Finishing stones suggested for wet honing.
(a) Unhardened sleeves & blocks: C320 IV or JV; C400 IV or JV
(b) Hardened sleeves: C180 HV or IV; C220 HV or IV

Letter "C" means silicon carbide, numbers 80, 100, etc., size of grit; letters J, K, etc., the hardness; V means Vitrified bond.

Honing lubricants—lard, lard oil, kerosene and vegetable shortenings are satisfactory: Some oil companies now have a "honing compound" which is made especially for this purpose and should be used where available. After finish honing, check piston in bore with feeler to be sure you have recommended clearance.

Wrap a piece of Wet-or-Dry paper (320-400 grit) around stone, dip in light oil and run up and down the bore 15 to 20 times with hone expanded to touch gently while rotating. This will pick up the greater

(TURN TO NEXT PAGE, PLEASE)

Wear Limits

portions of abrasive particles and metal fragments. Crocus cloth will also be satisfactory. Use stiff bristle brush and scrub bore vigorously with heavy solution of ordinary soap suds. Rinse off with clear water. Apply generous coat of heavy motor oil to bore and wipe out well with soft paper toweling or paper handkerchief.

Main and Connecting Rods

Bearing Tolerances

CRANKSHAFT—A shaft worn to the extent that the bearing surfaces are ridged and scored, is unfit for use and must be reground.

JOURNALS: Should not be more than .003 in. (a) out-of-round.

CRANKPINS: Should not be more than .002 in. out-of-round. If main journals or crankpins exceed these tolerances, the shaft is unfit for further use and must be reground.

CRANKCASE—Bearing Saddle Bores: Must be round within .002 in. (b) and in true alignment lengthwise for use with precision insert main bearings. Maximum out-of-round journals should not be used with maximum out-of-round case bores.

MAIN BEARINGS—Spread (width across the open ends) should exceed the crankcase bore diameter by .005 in. to .020 in., depending on the thickness and structural stiffness of the bearing.

CONNECTING RODS—Crankpin bearing bore and the piston pin bushing bore must be parallel with each other within .001 in. in 6 in., and the twist between these bores must not exceed .001 in. in 6 in.

ROD BORE: Must be round within .002 in. (c) Maximum out-of-round rods should not be used with maximum out-of-round crankpins.

ROD BEARINGS: Spread (width across the open ends) should exceed the rod bore diameter by .005 in. (d) to .020 in., depending on the thickness and structural stiffness of the bearings. The Ford V8 rod bearings are exceptions to this rule.

CAMSHAFT BEARINGS—After an engine has used up two sets of main and connecting rod bearings, the camshaft bearings are a potential source of trouble due to wear and should be checked for possible replacement.

Crankshaft End Clearances

FOR THE RODS, it is sufficient to be sure that the fillet at the ends of the crank pin does not bind on the end of the crank pin bearing. A clearance of .004 in. to .010 in. is recommended.

FOR THE CRANKSHAFT, end play or clearance is recommended as follows:

CRANKSHAFT JOURNAL DIAMETER	CRANKSHAFT END CLEARANCE
2 to 2¾	.004 to .006
2 13/16 to 3½	.006 to .008
3½ plus	.008 to .010

Bearing Oil Clearances

The general rule for the size of the oil clearance, for pressure lubricated bearings, is to allow .001 for each inch of journal diameter, subject to modification depending upon the bearing metal alloy used, i.e.:

TYPE OF BEARING	SHAFT DIAMETERS	
	2" to 2¾"	2 13/16" to 3½"
Lead and Tin Base Babbitts	.0015-.0025	.0025-.0035
Cadmium	.002-.003	.003-.004
Copper Lead	.0025-.0035	.0035-.0045

Tolerances given by Cleveland Graphite Bronze are lower, as noted:

(a.) Journals—.002 in.
(b.) Bearing Saddle Bore—.001 in.
(c.) Con Rods Bore—.001 in.
(d.) Rod Bearings—.020 in.

General Recommendations

In selecting replacement bearings, it is advisable that the manufacturer's original equipment specifications be followed as to bearing materials and running clearances. It is absolutely necessary that the crankshaft journal and crankpin sizes be accurately established so that the replacement bearing can be supplied which will have the correct oil clearance. To do this job, micrometers and bore gages should be used whenever possible.

After a crankshaft is reground, the ground surfaces must be lapped and polished to obtain a satisfactory smooth finish, i.e., 20 RMS maximum. A ground finish only is considered too rough and will result in a high rate of both shaft and bearing wear. After grinding and polishing, the crankshaft must be washed and all internal oilways thoroughly cleaned. Fillet radii should be checked to insure non-interference with the ends of the bearings.

The bolt torque specifications, as furnished by the original equipment builders, should be strictly adhered to. Proper torquing of the studs or nuts is a very important and essential factor. The best assembly is obtained if the proper torque is applied with a torque wrench alternating from one side of the bearing cap to the other so that the caps are drawn down evenly.

In case crankcases are rebored, the following important items should be checked:

1. Bore finish not to exceed 80 RMS.
2. Size, taper, and out-of-roundness.
3. Reboring with proper torque applied to nuts.
4. Bore alignment check with alignment bar.

After it is determined that all parts and clearances are satisfactory, the final assembly may be completed, with the close observation of the following items:

1. Freedom of dirt, nicks, scratches, and burrs.
2. Correct positioning of bearing tangs or locking lugs.
3. Correct arrangement of case and rod caps.
4. Bearing oil hole alignment with crankcase oil hole.
5. Break-in light oil with engine break-in practice ordinarily used for cylinders, pistons and valves.

Valves

Valve Seat Runout

Both the seat in the block or head, as well as the face of the valve itself should be checked by means of a dial indicator for runout. The valve seat should be concentric with the guide to within .0015 to .0025 total indicator reading.

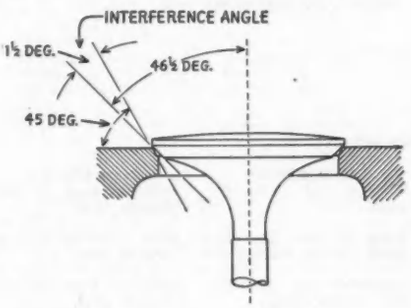
The valve face should be concentric with the stem to within .0025 to .003. Bent pilots and worn guides will give false readings. Replace guides not up to these standards.

Valve Seat Widths

Valve seat widths will vary according to design and dimensions of the valve head, type of engine and conditions of operation. The general rule is a wide seat for a hot running engine and a narrow seat for a cool running engine, for longer valve life.

The valve seat width further is governed by the thickness of the valve head margin, or that portion of the valve which extends from the top edge of the valve head to the top edge of the valve face. This sometimes is referred to as the edge thickness and serves a definite purpose of providing a heat dam to protect the valve seat and face from the heat of combustion. A thin margin offers no protection and hastens warpage and burning of the valve face as well as the seat.

This margin usually is approximately 3/64 in. wide on most valves and after refacing should be at least 75 per cent of what it was originally. The thinner the margin, the wider the face.



Valve Seat Angle

Valve seat angle should be within ½ deg. of that specified by the engine manufacturer. This should not be confused with the interference angle between the valve face and the valve seat specified by some engine manufacturers, i.e., valve face 46½ deg., valve seat 45 deg., interference of 1½ deg. Where valve burning has been encountered, the use of interference angle has sometimes alleviated this condition.

Care should be taken when the valve seats are reconditioned to insure that an even seat is ground.

A valve seat which is wide at one point and narrow at another will cause premature burning of the valve due to unevenness of the heat flow and is an indication that the valve seat is not concentric with the valve guide.

Valve Stem Wear and Guide Clearance

STEM DIAMETER	CLEARANCE Intake	Exhaust
5/16 in.	.002	.003
11/32 in.	.0025	.0035
3/8 in.	.003	.004
7/16 in.	.0035	.0045
1/2 in.	.004	.005

If wear develops to a point where the clearance is 50 per cent greater than the specified maximum, replacement of the worn parts is recommended. (Wear readings should be taken at maximum bell mouth or taper.)

Valve stem warpage, up to .003 maximum indicator reading, is permissible. Wear on stem tip up to 1/32 in. is usually permissible. If clearance is .002 or less, a stem .003 will bind.

Valve stem wear should not exceed .001 under the original diameter. That portion of the valve stem below the valve lock groove is not a wearing surface and consequently can be used to measure the original diameter of the stem.

Valve Stem Length

This is not too critical a dimension on most designs inasmuch as the tappet can be adjusted to compensate for valve stems which have been ground and thereby shortened. In the case of the Ford valve where adjustable tappets are not used, length should be held to .020 of the original length.

Valve Tappet To Bore Clearance

This clearance should not exceed engine manufacturers' specifications. Soft spots, excessively worn contact faces, worn, cupped and cracked tappet followers and screws should be replaced. Positive setting of valve tappet clearance is impossible with badly worn tappets.

Valve Stem To Guide Clearance

An old rule to follow is .00035 per .100 valve stem diameter, i.e., a valve stem having a .341 diameter should be fitted with approximately .0012 clearance. This would be the low limit and should not exceed .0022.

Excessive clearance interferes with the heat transfer from the valve stem to the guide and allows varnish and deposits to stew and build up on the valve stem until it is held open and burned.

Exhaust valve guide clearance should be approximately .0005 greater than intake.

Valve Guide Taper

Valve guide taper falls into the same category as the guide clearance and should not exceed .001 due to taper or uniform wear. Where design specifies a taper for the I.D. of the guide, we would suggest that the above limits of wear be considered as the limiting factor.

The above wear limits and operating tolerances will be satisfactory regardless of the type of alloy used in their composition. Tappet clearance is the only adjustment necessary when an austenitic steel valve is used to replace the original equipment valve of magnetic steel. The coefficient of expansion of the austenitic steel is considerably greater than magnetic steel and additional clearance is necessary. A corrected clearance chart has been issued specifying the correct tappet clearance for Aerotype valves.

Valve Springs

Valve springs are another determining factor in the condition of the valve. Weak springs permit the valves to bounce on the seat and wear and pound in the face.

All valve springs should be tested on a spring tension tester. The compression should be within 10 per cent of the factory limits. If otherwise, replace.

In replacing valve springs, the closed coils should be kept next to the block so that the surge and pounding due to inertia forces can be reduced. This assists in preventing spring breakage.

Also watch for:
1. Wear in block.
2. Wear in spring retainer cap.
3. Wear in spring end.
4. Spring tension.
5. Lowering of spring tension due to lowering of valve seat on reconditioning.

Installations, where the valves have been lowered on the seat due to grind in the installed spring height, should be checked.

Variations in excess of .020 should be taken up with washers to keep spring pressures in the proper range.

When springs are removed, it is good practice to thoroughly clean them and examine the wire surface. Any signs of corrosion would indicate that they should be discarded.

TAPPET CLEARANCE

The tappet clearance must not be overlooked. If too much clearance is allowed, the ramp on the cam is not used and the valve train will be subjected to terrific impact forces, causing excessive loads throughout. There will be valve flutter at the cam tip, fol-

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CCJ's Troubleshooting Guide

This comprehensive guide to a systematic track-down of typical vehicle failures covers in logical steps the following conditions: engine, power train, brakes, clutch, transmission, steering and tire troubles. Noise, wear, appearance or peculiar operating characteristics are used as a basis of diagnosis of impending breakdowns

By M. K. Simkins, Technical Editor, Commercial Car Journal

Starting Trouble

1. When starter won't function:

a. If lights stay bright, check for—
- Open circuit at starter
- Stuck solenoid
- Defective starter switch
- Improperly seating brushes
- Broken starter drive

b. If lights dim slightly, check for—
- Jammed starter drive
- Dirty commutator
- Resistance at starter switch

c. If lights go out, check for—
- Discharged battery
- Loose battery cable
- Corroded terminals
- Defective cell
- Tight engine bearings

2. When starter turns, and engine won't start:

a. If ammeter is dead, there is an open circuit in the primary. Check for—
- Points set too wide
- Corroded points
- Defective ignition switch
- Defective distributor drive
- Loose wire at distributor (primary)
- Open winding in coil
- Defective ammeter

b. If ammeter shows steady discharge, there is a grounded primary. Check for—
- Defective insulation, primary wires
- Points set too close
- Worn distributor cam lobes
- Worn rubbing blocks on points
- Grounded contact point arm
- Shorted condenser
- Shorted primary winding in coil

c. If ammeter reading is normal, but spark does not reach plugs, check for—
- Wet high tension wires
- Defective distributor cap
- Defective rotor brush or contact
- Grounded wire, coil to distributor
- Corroded wells in distributor cap
- Defective coil or condenser

3. When spark is ok, but engine won't start:

a. If there is no fuel at carburetor, check for—
- Empty gas tank
- Clogged fuel line
- Clogged fuel filter
- Restricted vent in gas tank
- Defective fuel pump
- Air leak in line from tank
- Clogged carburetor screen

b. If there is fuel at carburetor, check for—
- Flooding at carburetor
- Choke not operating
- Water in gasoline
- Restricted carburetor jets

c. If fuel does not reach carburetor, check for—
- Poor engine compression
- Leaking intake manifold
- Loose carburetor flange
- Broken manifold heat control valve
- Restricted low speed circuit
- Valves out of time

d. If there is flooding at carburetor, check for—
- Choke out of adjustment
- Clogged air strainer
- High float level
- Excessive fuel pump pressure

4. When there is good spark and proper fuel supply—check for:
- Defective spark plugs
- Spark plug gap set too wide
- Improper spark timing
- Water in cylinders
- Poor fuel

Rough Operation

1. When engine misfires at idle:

a. Trouble may be in ignition. Check for—
- Plug gaps set too wide
- Defective spark plugs
- Sticking breaker arm
- Incorrect breaker point gap
- Loose wire in primary circuit
- Defective distributor rotor
- Corroded, pitted breaker points
- Cracked distributor cap
- Leaking or wet high tension wires
- Worn cam lobes on distributor shaft
- Worn distributor shaft bushings
- Defective coil or condenser
- Defective ignition switch
- Spark out of adjustment

b. Trouble may be carburetion. Check for—
- Dirt or water in fuel
- Incorrect fuel level
- Leaking intake manifold
- Burned heat riser tube

2. When engine misfires at high speed:

a. Check for conditions under No. 1

b. Check spark for—
- Weaker breaker arm spring
- Breaker points set too wide
- Defective spark advance
- Wrong type spark plugs
- Weak valve springs
- Excessive carbon in head
- Poor compression

3. When engine backfires:

a. Through exhaust, check for—
- Cracked spark plug porcelain
- Crossed spark plug wires
- Air leaks at manifold
- Weak valve springs

b. Through carburetor, check for—
- Poor quality fuel
- Excessive lean or too rich mixture
- Intake manifold air leaks
- Sticking distributor governor
- Improper ignition timing
- Engine preignition
- Incorrect valve timing
- Improperly seating valves

4. When there is preignition:

a. Check for ignition causes—
- Spark set too fast
- Incorrect type spark plugs
- Burned spark plug electrodes
- Faulty distributor advance

b. Check for fuel causes—
- Poor grade of fuel
- Lean carburetor mixture
- Inoperative heat control valve

c. Check for overheated valves from—
- Insufficient valve tappet clearance
- Incorrect valve seat width
- Thin edged valves
- Too strong valve springs
- Incorrect type of valve

d. Check for other causes, such as—
- Excessive engine temperature
- Carbon deposits in combustion chamber
- Sharp edges in combustion chamber
- Cylinder head projection into chamber

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CCJ'S Troubleshooting Guide

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Engine Noises

1. If there is knocking at the crankshaft, check for:

- Insufficient oil supply
- Low oil pressure
- Diluted oil—water or gasoline
- Loose flywheel
- Excessive bearing clearance
- Excessive end play
- Out-of-round bearing journals
- Misaligned crankshaft
- Broken crankshaft web
- Distorted crankcase

2. If there is knocking at the con-rods, check for:

- Insufficient oil supply
- Low oil pressure
- Excessive bearing clearance
- Misaligned con-rod caps
- Misaligned con-rods
- Tapered, out-of-round journals

3. If there are piston noises, check for:

- Excessive piston to cylinder bore clearance
- Eccentric or tapered cylinders
- Insufficient piston pin clearance
- Piston hitting cylinder ridge
- Carbon in top of cylinder
- Piston hitting cylinder heat gasket
- Excessive clearance at ring groove
- Pin hole out of round with piston
- Ring lands not properly relieved

4. If there is piston pin noise, check for:

- Excessive piston pin clearance
- Insufficient piston pin clearance
- Loose piston pin lock
- Con rod end rubbing piston pin boss

5. If noise is at oil pump or distributor shaft, check for:

- Oil pump loose on mountings
- Damaged or scuffed oil pump gears
- End play in distributor shaft drive
- Worn shaft bushings
- Couplings loose on shaft
- Worn oil pump and distributor driven gear
- Worn or damaged camshaft drive gear
- Improper mesh of drive and driven gears

6. If noise is in water pump, check for:

- Lack of lubrication (lubricated types)
- Worn shaft bearings
- Pulley loose on shaft
- Pump impeller loose on shaft
- Excessive end play of pump shaft
- Impeller blades rubbing pump housing
- Impeller broken or pin sheared

7. If noise is at the engine fan, check for:

- Belt adjustment too tight or too loose
- Grease or rust on pulleys
- Worn or burned fan belt
- Incorrect type or size fan belt
- Misaligned pulley
- Excessive fan shaft end play
- Fan blades loose on spider of hub
- Fan blades striking radiator
- Unbalanced fan assembly
- Uneven pitch of fan blades
- Bent, distorted fan blades

8. If noise is in fuel pump, check for:

- Fuel pump body loose on engine
- Scored lever or cam eccentric
- Interference of lever with crankcase surface
- Worn rocker arm or rocker arm spring
- Weak or worn rocker arm contact spring

Compression Losses

1. Check for compression failures:

a. Engine performance shows up in—
- Loss of power
- Oil pumping—blow-by
- Smoking exhaust
- High oil consumption
- Diluted engine oil
- Poor acceleration

b. Engine sounds indicate—
- Clicking—broken ring or land
- Knocking—piston slap or broken piston
- Hissing at breather—defective intake valve
- Hissing at exhaust—defective exhaust valve
- Regular hiss—blown gasket
- Backfiring through carburetion—valve
- Backfiring on acceleration—valve failure
- Engine miss at all speeds

c. A compression gage shows—
- Low compression reading
- Low reading—two cylinders
- Leak past valves—compressed air test

d. A vacuum gage shows—
- Low vacuum gage reading
- Fluttering of needle
- Irregular drop in vacuum

2. Check piston ring conditions:

a. If rings are broken, cause may be—
- Wrong type, size ring
- Ring striking top ridge
- Worn ring grooves
- Broken ring lands
- Insufficient ring tension
- Insufficient gap clearance
- Excessive side clearance in ring groove
- Undersize pistons
- Scored, wavy cylinder walls
- Overheating

b. If there is ring sticking, check for—
- Compression blow-by
- Incomplete combustion
- Engine detonation
- Inadequate crankcase ventilation
- Improper engine cooling
- Insufficient ring land side clearance
- Dirty, contaminated oil
- Incorrect type of oil
- Poor grade of oil or fuel
- Lugging engine
- Excessive engine idle

c. If rings are noisy, check for—
- Broken piston ring
- Worn ring grooves
- Broken ring lands
- Lack of inner ring tension
- Top ring striking cylinder ridge
- Undersize pistons
- Wavy cylinder walls

3. Check for piston failures:

a. If there are piston noises, check for—
- Carbon accumulations in head
- Broken piston, skirt, ring land
- Insufficient clearance at top ring land
- Collapsed piston skirt
- Eccentric or tapered cylinders
- Excessive piston to bore clearance

b. If there is piston breakage, check for—
- Inadequate lubrication
- Overspeeding and overloading
- Pre-ignition
- Engine overheating
- Misaligned connecting rods
- Undersize pistons
- Eccentric or tapered cylinders
- Warped cylinder barrels

4. Check for cylinder failures:

a. If there is excessive wear, scoring, check for—
- Inadequate lubrication
- Contaminated or poor oil
- Incomplete combustion
- Too harsh type rings
- Improper cylinder finish
- Sharp edge left on piston skirt
- Insufficient ring gap clearance
- Tight piston pins
- Misaligned connecting rods, pins
- Distorted block, crankshaft
- Cylinders bored out of line

b. If there is cylinder warpage, check for—
- Engine overheating
- Improper head tightening
- Steam pockets in block
- Deposits between dry sleeve and bore
- Improper sleeve installation

5. Check on valve seating for:

- Insufficient valve-tappet clearance
- Broken, weak valve springs
- Improper valve timing
- Deposits under head and stem
- Warped heads and stems
- Cracked valves and seats
- Burned valves and seats
- Warped or binding guides
- Improper grinding operations
- Worn timing gears or chain

Electrical Trouble

1. With battery as guide:

a. If frequent charge is necessary, check for—
- Low regulator setting
- Slipping generator drive
- Corroded battery terminals
- Worn out, inefficient battery
- Short circuit in charging circuit
- Stuck cut-out in regulator
- Excessive use of electrical units
- Excessive drag in engine

b. If there is high water loss, check for—
- Too high charging rate
- Old, inefficient battery
- Leaking battery cell
- Cracked battery case
- Defective current regulator

c. If battery will not take full charge, check for—
- Low water level
- Worn out battery
- Spilled electrolyte
- Internal short circuit
- Impure electrolyte (doped up)

2. With starter as guide:

a. If there is excessive current draw, check for—
- Broken, jammed starter drive
- Dirty, gummed armature
- Shorted armature
- Grounded armature or field
- Resistance in engine parts
- Use of too heavy oil in winter
- Misaligned starting motor
- Worn armature shaft bearings
- Misaligned armature shaft
- Loose field pole pieces

b. If starter fails to operate, check for—
- Poor battery ground
- Jammed drive
- Broken teeth on flywheel
- Direct ground in switch
- Burned contact points in switch
- Improper seating brushes
- High mica between commutator segments
- Shorted armature
- Shorted field or brushes

c. If there is excessive noise at starter, check for—
- Defective starter drive
- Chipped flywheel teeth
- Insufficient lubrication
- Worn armature shaft bearings
- Misaligned starting motor
- Loose starter mounting
- Sprung armature shaft

d. If there are burned commutator bars, check for—
- Excessive arcing at brushes
- Excessive battery voltage
- Improperly seating brushes
- Open circuited armature coils
- Open field circuit

3. With lights as guide:

a. If there is excessive voltage drop, check for—
- Corroded, rusty grounds
- Loose connections
- Cracked, leaking wire insulation
- Frayed, broken cable strands
- Insufficient capacity wiring

b. If lamps fail to light, check for—
- Blown fuse
- Burned out bulbs
- Loose connections
- Open circuit in wiring
- Run down battery
- Defective light switch

c. If lights flicker, check for—
- Loose connections
- Poor grounds at lamps

d. If bulbs burn out, check for—
- Excessive battery voltage
- Corroded, defective grounds
- Excessive charging rate
- Short in wiring
- Incorrect type of bulbs
- Poor grade of bulbs

4. With generator as guide:

a. If generator fails to charge, check for—
- Open charging circuit
- Cut-out points stuck open
- Sticking brushes
- Dirty, gummy commutator
- Burned out commutator
- Grounded wire in charging circuit
- Grounded field coil
- Short circuit in field
- Open coil in cut-out windings

b. If there is a low, unsteady charging rate, check for—
- Conditions listed in (a.)
- Slipping fan belt
- Loose generator pulley
- Improperly seating brushes
- Worn brushes, weak spring tension
- Incorrect type of brushes
- Out of round commutator
- Resistance in charging circuit
- High mica between commutator bars
- Grounded generator field
- Open armature winding
- Loose pole pieces in field circuit
- Defective ammeter

c. If there is an excessive charging rate, check for—
- Improperly set regulator
- Defective regulator
- Overheated battery
- Improper third brush setting
- Shorted field—internal grounded type
- Grounded field—external ground type

d. If generator is noisy, check for—
- Misaligned fan belt or pulley
- Improperly seating brushes
- Worn or damaged bearings
- Insufficient bearing lubrication
- Loose generator drive pulley
- Loose field pole pieces
- High armature slot wedges
- Excessive output

e. If there is arching and noise at brushes, check for—
- High mica between commutator bars
- High commutator bars
- Out of round commutator
- Sprung armature shaft
- Dirty, glazed commutator
- Hard spots in brushes
- Weak brush spring tension
- Brushes worn down or loose
- Loose wiring at pigtails
- Shunts loose in brushes
- Excessive output

f. If armature fails prematurely, check for—
- Excessive charging rate
- Failure of voltage regulator
- Improper type brushes
- Worn shaft bearings

5. With regulator as guide:

a. If there is excessive oxidation of points, check for—
- Reversed polarity
- Poor ground connections
- Misaligned contact points
- Improper air-gap setting
- Shorted field in generator
- Wrong type of replacement points
- Open shunt resistors

b. If there is excessive point pitting, check for—
- Long usage with normal wear
- High current output of generator
- Insufficient point spring tension
- Reverse polarity in generator—
- Pitting cut-out points
- Suppression condenser on "F" terminal
- Items under 2A

c. If there are burned coil windings, check for—
- Excessive current output
- Stuck cut-out points
- Short in charging circuit
- Resistance in ground circuit

d. If there are sticking contact points, check for—
- Misaligned points
- Poor ground connection between generator and regulator
- Shorted field coil in generator
- Pitted or oxidized points
- Defective winding in regulator
- Open resistance unit

6. With ignition system as guide:

a. If there is breaker point oxidation, check for—
- High battery voltage
- Oil and crankcase vapors
- Filings lodged on points
- High resistance in condenser circuit
- Incorrect type ignition coil

b. If there is ignition coil failure, check for—
- Extremely high voltages
- Moisture formation
- Excessive heat from engine

c. If there are condenser failures, check for—
- Normal fatigue
- Excessive heat
- Moisture

d. If spark plugs burn and foul, check for—
- Incorrect type plug
- Too rich fuel mixture
- Engine pumping oil
- Inferior grade of gasoline
- Overheated engine

High Oil Consumption

1. Check for external leakage at:
- Outside oil lines
- Front main bearing
- Rear main bearing
- Oil pan gaskets
- Crankcase ventilator pipe
- Fuel pump gaskets
- Valve cover gaskets
- Timing gear cover gasket
- Crankcase drain plug
- Oil filter gaskets
- Oil filter connections

2. Check for defective rings due to:
- Worn or broken rings
- Insufficient tension in rings
- Insufficient clearance of ring gap
- Ring fitted too tight in grooves
- Carbon in oil ring slots
- Insufficient ventilation of oil rings
- Rings out of round, warped, twisted
- Wrong size rings

3. Check for defective cylinder surface showing up in:
- Worn, wavy, distorted cylinders
- Rough finish in cylinders
- Scored cylinder walls

4. Check for defective pistons due to:
- Normal wear
- Out of round pistons
- Collapsed piston skirt
- Insufficient drain holes in oil ring grooves
- Worn ring grooves
- Improperly fitted pistons
- Misalignment of piston and rod assemblies

5. Check for defective bearings due to:
- Scored con-rod bearings
- Worn main bearings
- Leaking main bearing seals
- Worn camshaft bearings
- Spurt holes in worn rods
- Plugged oil seal drain
- Out-of-round crankshaft
- Misaligned bearing caps
- Misaligned crankshaft

6. Check for defective valves due to:
- Valve timing too late
- Incorrect tappet clearance
- Leaky or burnt valves
- Plugged valve chamber drain
- Worn valve seats
- Worn valve stems or guides

7. Check condition of oil:
- Oil level too high
- Thin, diluted oil
- Oil pressure too high
- Broken oil lines
- Poor grade oil

8. Check for other contributing factors:
- Clogged breather
- Clogged oil filter
- Clogged muffler, tail pipe
- Leaky intake manifold gaskets
- Defective spark plugs
- Faulty carburetion
- Overheated engine
- Defective booster pump diaphragm
- Worn timing gears or chain
- Sustained high speeds
- Improper break-in of newly rebuilt engine

High Gas Consumption

1. When trouble is in carburetor—check for:

a. Flooding or leaking caused from—
- Cracked carburetor casting
- Leaking line connections
- Defective carburetor bowl gasket
- High float level
- Plugged vent hole in cover
- Loose float needle seat
- Defective needle valve seat gasket
- Worn needle valve and seat
- Foreign matter clogging needle valve
- Ridge worn in lip of float
- Worn float pin or bracket
- Float binding in bracket
- High fuel pump pressure

b. An overrich mixture caused from—
- Restricted air cleaner
- Too much oil in air cleaner
- Choke lever stuck
- Choker valve spring stuck
- Leaking float
- High float level
- Warped or bent bowl cover
- Worn metering rod
- Worn high speed circuit jets
- High fuel pump pressure

c. Too rich choke caused from—
- Plugged air strainer
- Binding butterfly valve
- Choker shaft binding
- Stuck or binding choke piston
- Leak in choke gasket
- Improper adjustment of accelerating pump

2. When trouble is in fuel pump, check for:
- Leakage around diaphragm cover
- Leaking fuel pump diaphragm
- Leaking sediment bowl gasket
- Loose valve seats
- Warped check valves
- Dirt, sediment in valves
- Corroded valve seats
- High fuel pump pressure

3. When there is fuel loss, check for:
- Leakage at lines and connections
- Leaking gas tank
- Evaporation from partially filled tank
- Evaporation from overheated lines
- Leakage at filler cap

4. When trouble is caused by ignition conditions, check for:
- Incorrect spark timing
- Leaking high tension wires
- Incorrect spark plug gap
- Fouled spark plugs
- Worn breaker points
- Faulty spark advance
- Defective condenser
- Weak ignition coil
- Pre-ignition

5. When trouble is caused by poor compression check for:
- Leaking head gasket
- Worn or broken piston rings
- Worn pistons and cylinders
- Worn valve stems or guides
- Sticking valves
- Poorly seating valves
- Weak valve springs
- Distorted head or block

6. Check for other vehicle factors such as:
- Loose carburetor flange on manifold
- Improperly adjusted or worn throttle linkage
- Restricted exhaust system
- Carbon in manifold
- Improperly adjusted manifold heat control
- Leaking windshield wiper hose
- Leaking intake manifold gasket
- Leaking manifold intake heat riser
- Overheating engine
- Unsatisfactory engine warm-up
- Use of poor grade of gasoline

7. When chassis conditions are to blame, check for:
- Dragging brakes
- Slipping clutch
- Under-inflated tires
- Excessive engine friction

8. When driving conditions are to blame, check for:
- High speeds
- Rapid acceleration
- Excessive use of low gears
- Excessive idling
- Improper engine warm up
- Use of too heavy lubricants
- Driving over hilly country

Valve Failures

1. When valves break, check for:
- Excessive tappet clearance
- Cocked springs or retainers
- Weak valve springs
- Too much spring pressure
- Excessive temperatures
- Excessive engine speeds
- Out of round seats
- Worn valve guides
- Worn retainers
- Worn retainer grooves
- Block distortion
- Defective valve forgings

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CCJ'S Troubleshooting Guide

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2. When valves burn, check for:

Close tappet clearance
Lean air-fuel mixture
Improper block cooling
Improper spark plug heat range
Pre-ignition
Improper spark timing
Weak valve springs
Gum formations on stem
Deposits on valve seats
Excessive detonation
Exhaust back pressure
Improper valve-guide clearance
Warped valves or guides
Incorrect valve seat width
Inferior fuel
Eccentric valve face
Defective valve material

3. When there are valve deposits check for:

Inferior fuel
Inferior oil
Improper cooling
Rich carburetor setting
Dirty oil filters
Dirty air filters
Excessive oil pressure
Poor lubrication of stem
Worn valve stem
Bell-mouthed valve guides
Too much engine idling
Worn rings, cylinders, pistons

4. When valve springs break, check for:

Normal fatigue
Valve flutter at high speed
Corrosion of valve springs
Improper crankcase ventilation
Worn camshaft bearings
Worn crankshaft or bearings
Worn timing gears or chains
Worn lobes on camshaft

5. When valves are noisy, check for:

Excessive tappet clearance
Inadequate lubrication of rocker arms
Wear in tappets, adjusting screw
Wear in cam lobes
Wear in push rods
Wear in rocker arm assembly
Wear in valve guides

6. When precision adjustments are impossible, check for:

Wear in valve stem tip
Wear in adjusting tappet screw
wear in push rod ends
Loose rocker arm assemblies
Worn rocker arms
Wear in tappet body
Wear in spring retainer slot
Wear in spring retainer cup

Bearing Failure

1. Check for premature wear:

Caused by dirt from—
Careless service methods
Contaminated oil
Infrequent oil changes
Dirty oil filters
Dusty operation

2. Caused by improper fitting due to:

Distorted con-rods
Mixing con-rod caps
Installing shells backwards
Filing shell to fit
Chiseling shell to reduce clearance
Dirt between brg. and rod bore
Out-of-round journals
Tapered journals
Warped crankshaft or block
Excessive crankshaft end play
Scored bearing surface
Improper clearance
Use of inaccurate tools
Improper tensions of studs

3. Caused by corrosion from:

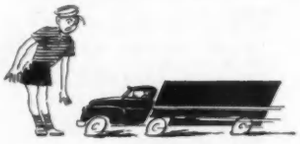
Crankcase acid vapors
Infrequent oil changes
Poor crankcase ventilation
Incomplete combustion
Engine blow-by
Inferior type of oil
Overcooling
Overheating

4. Caused by improper vehicle operation such as:

Overspeeding
Overloading
Lugging on hills
Spark detonation
Improper engine break-in
Racing a cold engine
Use of wrong type, grade oil
Use of improper fuel
Improper spark timing

5. Caused by lubrication failures resulting from:

Defective oil pump
Clogged oil pump screen
Excessive engine sludge
Excessive engine temperature
Use of too heavy oil in winter
Insufficient engine warm up
Insufficient quantity of oil
Crankcase dilution
Inadequate crankcase ventilation



Hydraulic Brake Troubles

1. Check from driver's seat for:

a. Spongy pedal, a result of:
Air in fluid
Improper brake adjustment
Improper brake fluid

b. Rubbery pedal, a result of:
Improper brake adjustment
Improper lining-drum contact
Lining of incorrect thickness

c. No pedal reserve, a result of:
Normal wear of linings
Low hydraulic brake fluid
Defective master cylinder

d. Loss of pressure, a result of:
External leak in lines
Leak in master cylinder check valve
Leak in cup of master cylinder
Leak in wheel cylinder, internal
Leak at stop light switch

e. Hard pedal, no free travel, a result of:
Swollen rubber cylinder cups
Restriction in bypass port of master cylinder
Improper lining

f. Pumping of pedal necessary, a result of:
Worn linings
Improper brake adjustment
Worn wheel cylinders or cups

g. Binding pedal, a result of:
Broken piston stop wire in master cylinder
Worn, tight, rusted linkage
Loose master cylinder mountings

h. Pedal striking toeboard, a result of:
Pedal stop ring out of seat in master cylinder
Misalignment of brake pedal
Misalignment of toeboard

i. Pedal failing to return, a result of:
Restricted bypass in master cylinder
Weak pedal return spring
Loose mountings of booster, pedal, master cylinder

j. No booster help, a result of:
Leak in vacuum lines
Loose connections
Worn valves in booster unit
Leak in diaphragm of booster unit
Linkage out of adjustment

2. Check on a road test for:

a. Poor brakes, no pedal reserve, a result of:
Improper drum-lining contact
Glazed linings
Oil-soaked linings
Improper pedal adjustment
Improper linings

b. Grabbing brakes, a result of:
Improper shoe adjustment
Grease soaked linings
Charred linings
Scored drums
Improper coefficient linings
Loose dust shields

c. Side pull, a result of:
Improper shoe adjustment
Excessive wear in drum
Scored drums
Grease-soaked lining
Loose anchor pins
Clogged or crimped wheel line
Loose dust shield
Different makes of lining
Improper shoe assembly
Water, mud in brakes
Front spring U-bolts loose
Tires not properly inflated
Weak chassis springs

d. Squealing brakes, a result of:
Dirt in brake drum
Foreign material embedded in lining
Loose lining rivets
Bent backing plate
Sprung shoes
Shoes scraping on backing plates
Distorted brake drum
Incorrect lining

e. Overheating brakes, a result of:
Improper adjustment
Dirt and grime on drums
High spots on drum
Tight wheel bearings

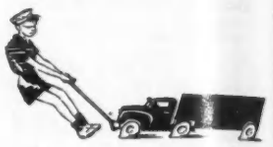
f. Fading brakes, a result of:
Poor lining to drum contact
Improper lining

3. Check from the lift when:

a. One wheel drags, a result of:
Improper brake adjustment
Shoes improperly installed
Distorted cylinder cups
Brake shoe seized to anchor pin
Weak brake shoe return spring
Sprung shoes
Obstruction in line
Loose wheel bearing

b. Wheel locks, a result of:
Loose lining
Loose wheel bearing
Loose anchor bolts
Out-of-round drum
High spots on lining
Loose wheel bearing

c. All wheels drag, a result of:
Improper adjustment
No free pedal travel
Swollen cylinder cups
Restricted port in master cylinder
Improper assembly of shoes
Lining of incorrect thickness



Air Brake Troubles

1. Check air pressure system for:

a. Slow pressure build-up, resulting from—
Too slow engine idle speed
Slipping compressor drive
Clogged compressor air strainer
Leaking lines or connections
Leaking discharge valves or seats
Carbon in discharge line
Excessive carbon in head
Insufficient unloader valve clearance
Worn piston rings in compressor
Scored cylinder walls in compressor

b. Quick loss of pressure, resulting from—
Leaking lines or connections
Leaking brake valves
Sticking discharge valves
Leaking governor valve

c. Compressor not unloading, resulting from—
Defective governor
Governor out of adjustment
Stuck unloading mechanism
Excessive clearance, unloader valves
Restriction in unloading line
Carbon in unloader cavity

d. Noisy compressor, resulting from—
Loose drive pulley
Worn, burned out bearings
Worn connecting rods
Loose piston pins
Broken piston rings
Broken discharge valves
Weak, broken valve springs
Carbon under discharge valves
Carbon deposits in head
Restricted oil line to bearings

e. Oil and water in system, resulting from—
Failure to drain tanks daily
Clogged air strainer
Worn rings in compressor
Scored cylinder walls
Excessive oil pressure
Excessive temperature changes

2. Check foundation system for:

a. Insufficient braking, resulting from—
Inadequate air pressure
Grease-soaked linings
Brake valve out of adjustment
Improper brake shoe adjustment
Lining of improper diameter
Glazed, worn out liners
Drums turned too thin
Push rods out of adjustment
Cams out of adjustment
Leaking brake chamber diaphragm

b. Slow brake application, resulting from—
Low air pressure
Improper brake shoe adjustment
Restricted lines and tubing
Excessive push rod travel

Leaking brake valve diaphragm
Frozen cams
Moisture frozen in system

c. Slow release of brakes, resulting from—
Improper brake adjustment
Frozen cams
Dry cam faces
Frozen anchor pins
Rusted cam lobes
Weak retractor springs

3. Check on road test for:

a. Grabbing brakes, resulting from—
Grease-soaked linings
Loose brake liners
Binding brake rigging
Loose backing plate
Defective brake valve
Out-of-round drums
Drums turned too thin
Loose, broken spider brake
Broken support plate
Flat spots on cam

b. Side pull, resulting from—
Improper brake adjustment
Defective lining
Oil soaked lining—one wheel
Improperly adjusted push rod travel
Broken shoe retractor spring
Leaking diaphragm in brake chamber
Unequal spring tension in diaphragm

c. Noisy brake application, resulting from—
Loose liners or rivets
Foreign particles imbedded in drums
Poor lining contact with drum
Loose backing plates
Tool marks in drum
Unbalanced brake linings
Thin brake drums
Glazed, thin linings
Weak, broken retractor springs
Broken, misaligned shoes

Cooling System Troubles

1. When there is external leakage, check for:
Loose, defective hose clamps
Defective rubber hose
Broken radiator seams
Corrosion perforation of water tubes
Loose core hole plugs
Worn water pump shaft, seal, bearing
Damaged gaskets, pump, cylinder
Warped cylinder head or block
Cracked cylinder head or block

2. When there is internal leakage, check for:
Loose cylinder head bolts
Damaged cylinder head gasket
Warped cylinder head or block
Cracked cylinder wall
Porosity of cylinder head (aluminum)
Deteriorated wet cylinder sleeve seals
Broken joints in oil coolers

3. When there is loss from overflow, check for:
Defective pressure valve in cap
Leakage of overflow tank
Defective radiator baffle plate
Air leak on suction side of pump
Air entrainment from top tank turbulence
Restricted passages in radiator
Steam formation at hot spots
Foaming of cooling liquid
Exhaust gas leakage into system

4. When there is restricted circulation, check for:
Slipping fan belt
Low or too high coolant level
Clogged radiator core
Collapsed radiator hose
Stuck thermostat
Pump impeller loose on shaft
Pump blades broken or worn
Clogged water jacket passages
Distribution tube dislocated
Air leak in suction side of system
Inadequate cooling system capacity

5. When engine overheats, check for:

a. Cooling system factors caused by:
Causes listed in No. 4
Clogged bug screen
Coated radiator core fins
Radiator air baffles out of place
Bent fan blades
Oil and sludge in system

b. Spark conditions caused by:
Incorrect ignition timing
Improper fuel mixture
Low oil level
Defective spark advance mechanism
Incorrect valve timing
Pre-ignition
Clogged exhaust or muffler
Defective heat control valve
Tight engine, bearings, pistons, rods

c. Operating factors caused by:
Dragging brakes
Overloading of vehicle
Lugging engine on grades
Excessive engine idling
High sustained speeds
Driving in sand, snow, mud
Stop and go driving

6. When there is overcooling, check for:
Defective thermostat
Thermostat installed incorrectly
Automatic shutters not functioning
Defective heat control valve
Inaccurate temperature indicator
Excessive engine idling

7. When there is corrosion present, check for:
Impurities in water
Lack of rust inhibitor
Improper draining and service
Air leaks in system
Electrolytic action
High temperature

Transmission Failures

1. When there is noise in neutral, check for:
Insufficient lubrication
Incorrect grade of lubricant
Misalignment of transmission
Sprung or worn countershaft
Excessive end play in countershaft, reverse idler, pinion
Worn mainshaft pilot bearing
Scuffed gear tooth contact surface
Excessive backlash in constant mesh gear
Unmatched constant mesh gears
Worn, rough reverse idler gear
Eccentric countershaft gear assembly
Defective second speed mainshaft gear bushing
Worn, scored countershaft bearings
Scuffed gear tooth contact surgears
Worn transmission pinion bearing

2. When there is noise in gear, check for:
Conditions under No. 1
Noisy speedometer gears
Worn, rough mainshaft rear bearing
Excessive second speed mainshaft end play
Sliding gear teeth rough, chipped, tapered

3. When noise is due to other conditions, check for:
Out-of-balance fan
Loose engine mountings
Loose transmission mounting
Unbalanced clutch assembly
Out-of-balance flywheel
Out-of-balance crankshaft
Defective torsional damper
Worn universal joints
U-joints improperly installed
Misaligned, sprung driveshaft

4. When shifting is difficult, check for:
Improperly operating clutch
Improper adjustment of shifting linkage
Worn shifter rails
Worn, sprung shifter fork
Misaligned mainshaft
Burred mainshaft splines
Insufficient chamfer of sliding gear teeth
Sliding gear tight on shaft splines
Damaged synchronizing unit

5. When gears can't be shifted, check for:
Improperly operating clutch
Improper linkage adjustment
Misaligned mainshaft
Insufficient chamfer on detent ball notches
Sliding gear tight on mainshaft splines

6. When transmission slips out of high gear, check for:
Improper linkage adjustment
Misaligned transmission
Insufficient on detent balls
Too much chamfer on detent ball notches
Worn clutch sleeve gear teeth
Worn pinion gear teeth

7. When transmission slips out of second gear, check for:
Improper linkage adjustment
Weak detent ball springs
Excessive chamfer on detent ball notch
Excessive end play of second gear on mainshaft
Worn second speed clutch gear teeth
Excessive clearance between second speed gear and mainshaft

8. When transmission slips out of first gear, check for:
Improper linkage adjustment
Worn shift lever lock ball notch
Too much chamfer on detent ball notch
Insufficient gear mesh
Excessive end play of reverse idler
Worn countershaft first speed gear
First and reverse sliding gear loose on mainshaft splines
Sliding gear teeth worn or tapered
Worn, misaligned mainshaft splines

9. When there is loss of lubricant, check for:
Lubricant level too high
Stopped up transmission breather
Damaged or improperly installed gaskets
Damaged or defective oil seals
Defective oil throw rings
Loose drain plug, transmission cover
Worn mainshaft bearings
Cracked transmission housing
Use of foaming lubricant

10. When transmission bearings fail prematurely, check for:
Use of wrong type, grade of lubricant
Lack of cleanliness in overhaul
Securing too tight or too loose bearing adjustments
Improper assembly of the unit
Improper shifting of gears
Excessive overloading of vehicle
Lugging of engine

Clutch Troubles

1. Check for clutch chattering resulting from:
Improper clutch adjustment
Oil or grease on facings
Glazed friction facings
Loose facings on driver plate
Uneven spring pressures
Damaged drive or driven plates
Bent clutch shaft or clutch plate
Binding pressure levers or release levers
Binding drive plate hub
Worn splines in transmission shaft
Loose universal joint flange
Improper alignment of transmission

2. Check for clutch grabbing resulting from:
Improper clutch adjustment
Oil or grease on facings
Loose engine mounts
Worn friction facings
Uneven spring pressures
Pressure plate binding on studs or pins
Binding release levers
Improper alignment of transmission with clutch

3. Check for clutch slippings resulting from:
Improper clutch adjustment
Oil or grease on facings
Binding clutch pedal
Insufficient free pedal travel
Warped clutch plates
Binding pressure or release levers
Worn friction facings
Weak, broken clutch pressure springs
Binding of driving pins in pressure plate holes
Improper alignment of clutch, engine, transmission
Driver riding clutch pedal

4. Check for clutch dragging caused by:
Improper clutch adjustment
Oil or grease in clutch
Improper pedal adjustment
Improper alignment
Dust or dirt in clutch
Worn, misalignmed clutch facings
Clutch plate hub binding on shaft
Binding pilot bearing or bushing
Sticking release sleeve
Warped, damaged pressure plate

(Turn to next page, please)

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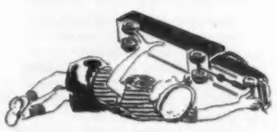
Continued from Page 75

5. Check for clutch rattling caused by:
- Improper alignment
- Bent clutch shaft
- Worn, dry clutch release sleeve
- Unequal contact of pressure levers
- Dry or worn pilot bearing or bushing
- Worn release bearing
- Worn parts in release assembly
- Damaged clutch plate
- Weak or broken release lever anti-rattle springs
- Worn splines on clutch shaft or in plate hub
- Worn driving pins in pressure plate
- Excessive backlash in transmission or prop shaft
- Worn transmission main drive gear bearing

6. Check for clutch squealing caused by:
- Dry clutch pilot bushing
- Lack of lubrication in release sleeve
- Misalignment of clutch with engine
- Bushing turning in crankshaft
- Worn transmission main drive gear bearing

7. Check for clutch knocking caused by:
- Play between pressure plate lugs and their guides
- Worn release lever guide pins
- Release levers striking clutch plate
- Incorrectly installed metal baffle plate
- End play in crankshaft

8. Check for clutch vibrating caused by:
- Improper clutch assembly alignment
- Bent clutch shaft
- Improper fitting of pressure plate
- Loose floating type clutch release sleeve
- Pressure spring off center
- Flywheel out of balance
- Loose flywheel
- Defective vibration dampener
- Loose engine mountings
- Worn universal joints
- Worn transmission rear bearing
- Loose emergency brake drum
- Loose pinion bearing in rear end



Power Train Failures

1. Check propeller shaft for:

a. Excessive vibration resulting from—
- Improper alignment of flanges
- Misaligned, sprung drive shaft
- Worn needle bearings in cross
- Worn splines on shaft or yoke
- Loose U-joint flange nut
- Improperly installed key on pinion
- Too short propeller shaft
- Worn torque tube bushing
- Missing bolt in flange
- Worn rear transmission bearing
- Misaligned rear wheels
- Shifted rear axle
- Sprung frame

b. Excessive wear resulting from—
- Improper lubrication
- Too short shaft
- Excessive end thrust
- Overloading the vehicle
- Careless braking

2. Check universal joints for:

a. Out of balance resulting from—
- Excessive wear
- Loose flange nut
- Worn keyways
- Incorrect key installation
- Grease fitting interference

b. Breakage resulting from—
- Overloading
- Misaligned drive shaft
- Misaligned rear axle
- High angle drive
- Weak rear springs
- Erratic driving and braking

3. Check differential for:

a. Case breakage caused from—
- Loose case bolts
- Improper adjustment differential support bearings
- Excessive ring gear and thrust block clearance
- Erratic clutch operation
- Vehicle overloading

b. Scoring of pinions, caused from—
- Insufficient lubrication
- Improper grade of lubricant
- Excessive loads
- Excessive spinning of one wheel

c. Tooth breakage, caused from—
- Normal fatigue
- Erratic clutch operation
- Overloading
- Ice-spotted pavements

d. Side gear broken at hub caused from—
- Misaligned axle shaft
- Worn thrust washers
- Excessive axle housing deflection

e. Noisy operation caused from—
- Insufficient lubricant
- Unmatched ring gear and pinion
- Worn teeth in ring gear or pinion
- Improper ring gear and pinion adjustment
- Loose differential side gear bearings
- Misaligned, sprung ring gear
- Loose differential housing bolts
- Loose pinion bearings

f. Loss of lubricant caused from—
- Lubricant level too high
- Damaged bearing grease retainer
- Defective rear wheel bearing gasket
- Worn axle shaft grease retainers
- Defective pinion oil seal
- Restricted lubricant return passage
- Scored, warped companion flange hub
- Cracked rear axle housing
- Too high wedges at spring seat

g. Overheating of unit, caused from—
- Lubricant level too high
- Use of incorrect grade of lubricant
- Bearings adjusted too tightly
- Misalignment of bearings
- Insufficient ring gear to pinion gear clearance

4. Check rear axle for:

a. Axle breakage resulting from—
- Normal fatigue
- Grabbing clutch
- Use of emergency brake to stop
- Excessive speeds, rough roads
- Misaligned axle shaft housing
- Vehicle overloading
- Improperly adjusted wheel bearings

b. Noisy operation, resulting from—
- Bent, sprung axle shaft
- Misaligned axle shaft housing
- Wear in axle shaft housing sleeve
- End play in pinion shaft bearings
- Excessive gear lash
- Improper adjustment pinion shaft bearings
- Loose pinion companion flange
- Scuffed gear tooth surfaces
- Improper bearing adjustment

5. Check rear wheels for noise due to:
- Wheel loose on axle shaft taper
- Worn wheel or axle shaft keyways
- Wheel hub or drum studs loose
- Axle shaft rubbing wheel bearing retainer
- Insufficient bearing lubrication
- Scored wheel bearing cup or cone
- Defective, brinelled wheel bearings
- Excessive axle shaft end play

Tire Wear

1. Check tire factors causing premature tire wear:
- Underinflation
- Overinflation
- "Bleeding" hot tires
- Undersize tires for load
- Neglected cuts and bruises
- Duals mismatched for size
- Duals—improper spacing
- Duals mismatched for type of cord
- Improper matching of inflation pressure in duals
- Wrong type tire for job

2. Check vehicle factors causing premature tire wear:
- Overloading
- Improper loading
- Excess overhang loads
- Wheel misalignment
- Wheels out of balance
- Grabbing brakes
- Unequalized brakes
- Sprung or sagging axles
- Sprung frame
- Worn wheel bearings
- Loose "U" bolts
- Worn or loose wheel bearings
- Bent rims
- Broken springs
- Improper placement of tandem axles

3. Check driving habits causing premature tire wear:
- Quick starts and stops
- Curb scraping and bumping
- Excessive speed
- "Squealing" tires on curves
- Running over rocks
- Parking on oily floors
- Riding edge of pavement with soft, low shoulders
- Improper brake application
- "Spinning" tires in mud, slush

4. Check road conditions causing premature tire wear:
- Abrasive road surfaces
- Rutted roads
- Highly crowned roads

5. Check other factors causing premature tire wear:
- Atmospheric conditions
- Storing tires exposed to sun
- Storing tires exposed to oil
- Failure to switch tires
- Wrong size flap used
- Loose tire chains
- Foreign objects between duals

Steering Problems

1. Check for hard steering conditions caused by:
- Insufficient lubrication
- Underinflation
- Tight steering assembly
- Worn steering gear
- Too much caster
- Excessive, positive or negative camber
- Bent, worn king pin
- Sprung spindle
- Sagging, broken spring
- Broken frame

2. Check for loose steering conditions caused by:
- Worn steering linkage
- Weak springs in drag link
- Worn sector shaft bushing
- Worn tie rod ends
- Improper steering adjustment
- Worn king pins, bushings

3. Check for wander or weave caused by:
- Unequal tire pressure
- Sagging, broken springs
- Loose spring shackles
- Worn front wheel bearings
- Tight steering assembly
- Worn king pins, bushings
- Incorrect toe-in adjustment
- Insufficient caster
- Loose U-bolts
- Bent, broken frame
- Overloading

4. Check for low speed shimmy caused by:
- Too much caster
- Loose king pins
- Loose drag link arm
- Loose steering gear
- Misaligned drag link
- Worn tie rod ends
- Loose wheel bearings
- Sagging, broken springs

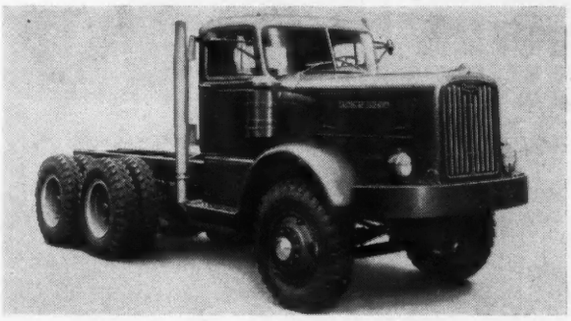
5. Check for high speed shimmy caused by:
- Underinflation—front tires
- Unequal inflation
- Loose engine mounting
- Worn rear wheel bearings
- Worn universal joint
- Whipping propeller shaft
- Wheel or tire wobble
- Out-of-balance wheels
- Eccentric tires
- Broken, sagging springs
- Worn shock absorbers

6. Check for road shock caused by:
- Unequal caster
- Excessive caster
- Sprung front axle
- Bent steering arm
- Bent drag link
- Weak springs
- Improper tire size
- Defective shock absorbers

7. Check for side pull caused by:
- Unequal caster
- Tight king pins
- Unmatched tires
- Uneven inflation
- One weak rear spring
- Sagging front springs
- Bent steering knuckle
- Bent, broken frame
- Uneven braking

TRUCK DATA

AUTOCAR



45, 50, 70, 70S, 75, 8044, 90, 95, DC75, DC100 Series

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
C50, C50T, U50, U50T	10	14	25	27
C50D	10	14	20	27
C5064	10	14*	22ea	27
C70, C70T	12	18	25	34
U70, U70T	12	18	25	38
C70S, C70TS, C70D, C90T	12	18	18	34
U70S, U70TS, U90, U90T	12	18	18	38
C7064	12	18*	22ea	34
C7064S	12	18	14ea	34
C75T	14	18	18	42
C8044	12	18‡	18	34
C90	12	18**	18	34
C90D	12	18**	24	34
C9064	12	18**	32ea	34
C95T	14	24	18	42
DC75T	28	14**	18	37
DC100, DC100T	28	16**	18	40
DC100D	28	16**	24ea	40
DC10044N	28	16†	18	40
DC10064	28	16**	17ea	40
DC10064S	28	16**	26ea	40
DC20064SN	28	16**	28ea	40

*—Torque Divider—20 pints.
‡—Transfer Case—4 pints.
**—Auxiliary Transmission—12 pints.
†—Transfer Case—5 pints.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
All Gasoline Models (1945-51)	120*	17	Pos	2	2
All Diesel Models (1945-51)	155**	23	Pos	4	4

*—2 Batteries; **—4 Batteries.

TENSIONS

ENGINE MODELS	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
377	90-100	140-150	85-90
447, 501	90-100	140-150	90-100
All Models with Diesels.	See CUMMINS—page 112		

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
50 Series	Own 377	6-4x5	40-2450	11°B			.018	.021	CH	8 Com	18mm	.025	.024	6°	2°B	100
70 Series	Own 447	6-4¼x5¼	40-2400	16°B			.018	.021	CH	8 Com	18mm	.025	.024	6°	2°B	105
70S Series, 90 Series, 8044	Own 501	6-4¼x5¼	40-2400	16°B			.018	.021	CH	8 Com	18mm	.025	.024	6°	2°B	105
75 Series	Con 6572	6-4⅜x5⅝	60-2600	17°B			.020	.020	CH	5 Com	18mm	.025	.024	5°		120
95 Series	Con 6602	6-4⅞x5⅝	60-2600	17°B			.020	.020	CH	5 Com	18mm	.025	.024	5°		120
DC75 Series, DC100 Series	Cum HRB-600	6-5½x6	40-1800	5°			.014	.022				Die	sel			525
DC200 Series, DC10044	Cum NHB-600	6-5½x6	40-2100	20°			.014	.027				Die	sel			500

VALVE SPRINGS

ENGINE MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
377, 447, 501	132	2 1/64	69	2 13/32
Con R6572, R8602	170	1 3/4	73	2 1/4
Cum HRB600	136	2 1/16	87	2 1/16
Cum NHB600	109	1 11/32	78	2 1/4

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
C50, C50T, U50, U50T, C5064	0-1/4	1P	1 3/4N-1/4N	5 1/2
C50D, C70, C70T, C70D	0-1/4	1P	3/4N-3/4P	5 1/2
C7064	0-1/4	1P	1N-1P	5 1/2
C70S, C70TS, C75T	0-1/4	1P	3/4N-3/4P	5 1/2
C7064S, C90, C90D	0-1/4	1P	1N-1P	8
C90T, C95T	0-1/4	1P	3/4N-2 1/4P	8
C9064	0-1/4	1P	1N-1P	8
U70, U70T, U70TS, DC75T	0-1/4	1P	3/4N-3/4P	5 1/2
U70S, U90, U90T	0-1/4	1P	1 1/2N-1/2P	8
DC100, DC100T, DC10064	0-1/4	1P	0-2P	8
DC100D, DC10064S, DC20064S	0-1/4	1P	1N-1P	8
C8044, DC10044N	0-1/8	0	5P	0

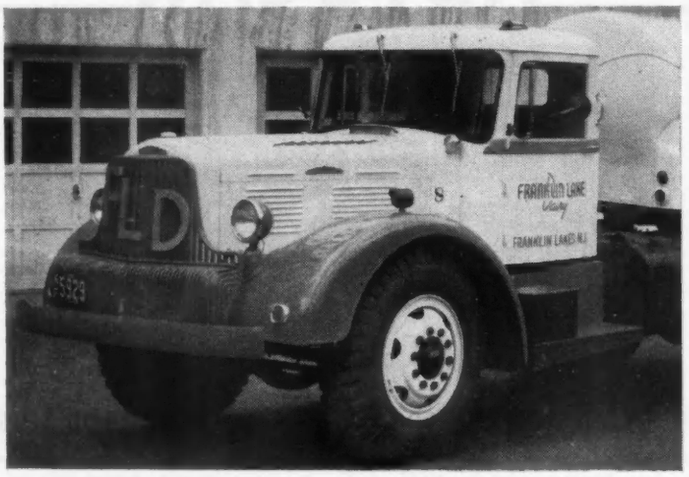
N—Negative. P—Positive.

LUBRICATION

MODEL	ENGINE			TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
	Viscosity and Temperature Range			Summer	Winter	Summer	Winter	Summer	Winter	
All Models (1945-51)	(S)30	(M)20	(W)10	140*	90*	140	90	140	90	140-90

S—Summer. M—Mild. W—Winter. *—Spicer Transmission SAE 50 Engine Oil.

BROCKWAY



Models 88WH, 128W, 146W, 148W, 151W, 152W, 153W, 153BB, 154W, 154WH, 240XW, 260XL, 260XW, 260XWL

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
88WH (1945-51)	7	7	15	28
128W (1947-51)	7	12	20	28
146W (1947-51)	7a	12	31	28
148W (1948-51)	8a	16	31	30
151W (1948-51)	8a	16	34	32
152W (1947-51)	8a	16	20	32
153W (1948-51)	8a	16	36	32
154W (1947-51)	8a	16	20	30
154WH (1947-51)	14b	18	20	40
240XW (1947-51)	14b	18	20	40
260XW, 260XL, 260XWL, (1947-51)	14b	18	38c	40
153BB (1950-51)	8a	16	52d	32

a—When oil filter is drained add 1 extra qt.
b—When oil filter is drained add 4 extra qts.
c—When 2-speed axle—32 pt.
d—2 rear axles.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
88WH, 128W, 146W, 148W, 151W, 152W, 153W, 153BB, 154W	120	17	Pos	2H	4
154WH, 240XW, 260XL	155	23	Pos	4H	4
260XW, 260XWL	120*	17	Pos	2H	2

*—2 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
All Models	See Continental—Page 92		

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing Cold	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before	A-After	Comp. Pressure at Cranking Speed
88WH (1945-51)	Con 38B	6-3¾x4½	40-2000	6½°B	2½B	.022	.020H	.022H	CH	7 COM	18mm	.025	.022	6°B	.....		....
128W, 146W (1947-51)	Con 40B	6-4x4⅜	40-2000	6½°B	2½B	.022	.020H	.022H	CH	7 COM	18mm	.025	.022	6°B	.....		....
148W, 151W, 152W, 153W, 154W (1944-51)	Con 42BX	6-4⅛x4⅜	55-2500	16°B	6B	.022	.020H	.022H	CH	7 COM	18mm	.025	.022	6°B	.....		....
154WH, 240XW, 260XL (1947-51)	Con 46B	6-4½x5⅝	55-2500	17°B	6⅛B	.024	.020H	.024H	CH	5 COM	18mm	.025	.022	5°B	.....		....
260XW, 260XWL (1947-51)	Con 48B	6-4¾x5⅝	55-2500	17°B	6⅛B	.024	.020H	.024H	CH	5 COM	18mm	.025	.022	5°B	.....		....

C—Cold.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
88WH, 128W, 146W (1944-51)	119±4	1.52	61±3	1⅞
148W, 151W, 152W, 153W, 154W (1944-51)	144±7	1.52	69±3.5	1⅞
154WH, 240XW, 260XW, 260XL, 260XWL (1944-51) O.	160±7	1¾	67±4	2¼
260XWL (1944-51) I.	38±3	1¾	381±3	2¼

O—Outer. I—Inner.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K.P.I.S.LANT (In degrees)
88WH, 128WH, 260XL, 260XWL	1/16-1/8	1	½°-1½°	8
146W, 148W, 154W, 154WH	1/16-1/8	1	½°-1½°	5¼
151W, 152W, 153W, 153BB, 240XW, 260XW	1/16-1/8	1	½°-1½°	0

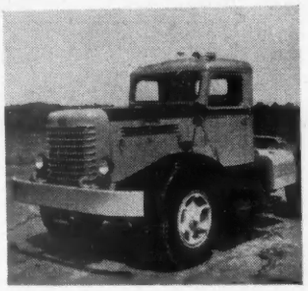
LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
88WH, 128W, 146W, 148W, 151W, 152W, 153W, 153BB, 154W (1944-51)	40 above 32°	30 below 32°	.....	90EP	90EP	90EP	90EP	160	110	1 0
154WH, 240XW, 260XW, 260XL, 260XWL (1944-51)	30 above 32°	30 below 32°	.....	90EP	90EP	90EP	90EP	160	110	1 0

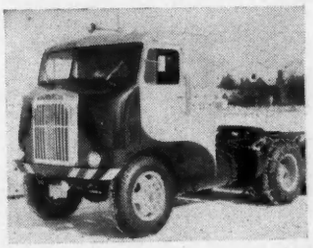
EP—Extreme pressure lube.

BROWN — FREIGHTLINER

TRUCK DATA



Models Gas and Diesel



Models A-64, B-42

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing on pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quart
BROWN				
R8572TC-TJ	16*	24	20	46
140GKT	....	24	20	46
HB600TH-TJ	20*	24	20	46
HRB600TJ, HRBB600TJ	30*	24	20	46
NHB600TJ	30*	29	20	52
6DA844TK	26	44**	20	65
6DA779TK	26	44**	20	65
6DTS468TK	9¼	24	20	42
FREIGHTLINER				
A-64, B-42	28	17†	20	58

*—Change. †—17 Main and 17 Aux.
**—32 main; 12 auxiliary.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
BROWN			
BT1219	140	17	Pos
R6572TC-TJ	100a*	13	Pos
140GKT, R8572TJ†	140a*	....	Pos
HB600TH	100a**	13	Pos
All other Diesels	140a**	....	Pos
FREIGHTLINER			
A-64, B-42	200a	25	....

*—One 12 volt battery. **—Two 12 volt batteries.
†—Alternate battery. a—Discharge at 20 hours.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
BROWN			
R6572T	90-100	120-130	65-75
All Diesel models	430-450	310-330	105-115
FREIGHTLINER			
All Diesels	430-450	325	125-135

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
BROWN																
R6572T	Con 6572	6-4¾x5⅝	60-1800	15° A	.....	.020	.020	.020	AL	BT8	18mm	.030	.030	3° B	.....	110
140GKT	Wau 140GK	6-4½x5½							AL							
HB600T	Cum HB600	6-4⅞x6	40-1800	5° B			.014	.022		Diesel						
HRBB600T	Cum HRBB600	6-5⅛x6	40-2000							Diesel						
HRB600T	Cum HRB600	6-5⅛x6	40-1800							Diesel						
NHB600T	Cum NHB600	6-5⅛x6	40-2100				.017	.027		Diesel						
6DA844TK	Buda 6DA844	6-5¼x6½	30-45-1800	B20°			.015	.012		Diesel						525
6DA779KK	Buda 6DA779	6-5¼x6	30-45-1800	B20°						Diesel						525
6DTS468TK	Buda 6DTS468	6-4¼x5½	30-45-1800	B30°						Diesel						525
FREIGHTLINER																
A64, B42	Cum NHB	6-5⅛x6	35-50*	20° B			.014	.027		Diesel						525

*—At operating speed.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
BROWN				
6572	170	1¾	73	2¼
Cum HB600, HRB600, HRBB600	136	3⅛*	87	3⅛*
Cum NHB600	102	3⅛	72	3⅛*
6DA844TKD	162-172	2⅛	70-80	2¼
6DA779TKD	162-172	2⅛	70-80	2¼
6DTS468TKD	.....	2⅛	35-38	2⅛
FREIGHTLINER				
Cum NHB	109	1⅛	78	2¼

*—Free length.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
BROWN				
All Models through TH	⅛ ± ⅛	¾ ± ¼	4°-5°P	8
All TJ & TK Models through 1950	⅛ ± ⅛	¾ ± ¼	2°-3°P	5½
FREIGHTLINER				
All Models	¼	1	2¼	8

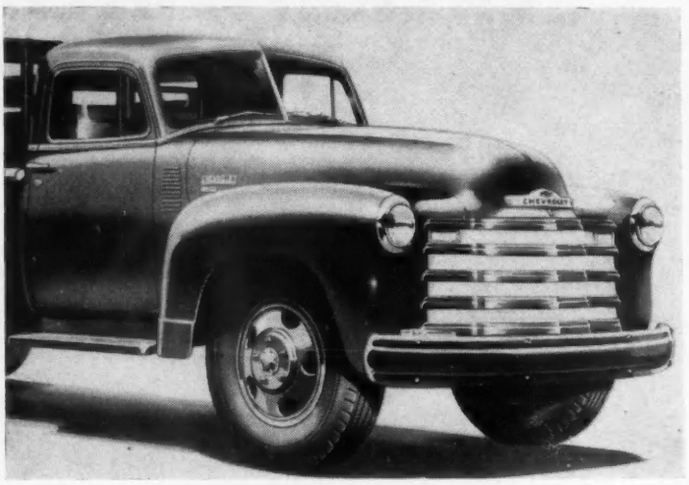
P—Positive

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
BROWN										
R6572T	(S)—40	(W)—30	.....	50*	50*	140	90	140	90	#0
All Diesel Models	(S)—20	(W)—20	.....	50*	50*	140	90	140	90	#0
FREIGHTLINER										
A-64, B-42	(S)—30	(W)—30	.....	90	90	90	90	90	90	90

S—Summer. W—Winter. *—Spicer transmissions. With Fuller transmissions: Summer—140; Winter—90.

CHEVROLET



JP, JR, JS, UJ, UK, JL, JT, JJ, UP, UPS, UR, URS, US, USS, UV, UVS, UW, UWS, UY, UYS, UX

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
JP	5	1½	4½	15
JR	5	1½	6	15
JS	5	6	6	15
JT	5	1½	6	15
JU	5	6	6	15
UJ	5	6	11	15
UK	5	6	11	15
UL	5	6	11	15
UP, UPS, UR, URS	5	6	12	17.5
US, USS, UV, UVS	5	6	12	17.5
UW, UWS, UY	5	6	12	17.5
UYS, UX	5	6	12	17.5

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AA&M Group No.
All Trucks Except School Bus	100	15	Neg	1M	1M
School Bus	125	19	Neg	2M	2M

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
All Models	70-80	100-110*	40-50*

*—With oiled threads.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Intake Valve Opens B-Before A-After: Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	OPERATING TAPPET CLEARANCE (Hot unless noted): Exhaust	SPARK PLUG: Make	SPARK PLUG: Type	SPARK PLUG: Size	SPARK PLUG: Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
All Models with 216.5 cu. in. Engine	Own	6-3½x3¾	14-2000	1°A		**	.008*	.015*	AC	44-5Com	14mm	.035	.018	5°B		110
All Models with 23.5 cu. in. Engine	Own	6-3 5/16x3 11/16	14-2000	1°A		**	.008*	.015*	AC	44-5Com	14mm	.035	.018	5°B		110

*—Above 8000 lb GVW, except school buses, .010 intake, .020 exhaust. **—Zero lash No. 1 exhaust.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
All Models	124-140	1.505	53-63	1.821

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
½-Ton	1/16 to 1/8	1 ± ½	1¾ ± ½	7⅛*
¾-Ton	1/16 to 1/8	1 ± ½	2½ ± ½	7⅛*
¾-Ton Forward Control	1/16 to 1/4	1 ± ½	3¼ ± ½	7⅛*
1-Ton Forward Control	1/16 to 1/4	1 ± ½	2¾ ± ½	7⅛*
1, 1½, 2-Ton Conventional	1/16 to 1/4	1 ± ½	2¾ ± ½	7⅛*
2-Ton Cab-Over-Engine	1/16 to 1/4	1 ± ½	3 ± ½	7¼*

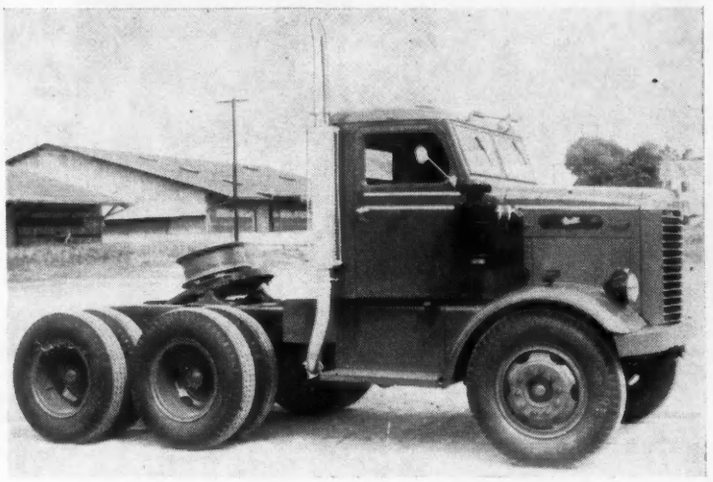
*—1 deg.

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range	TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
All Models	20 above 32° | 20W@10° to 32° | 10W@10° to 10°*	90MP	90MP	90MP	90MP	MP	MP	90

*—10% kerosene or 5W below —10°. MP—"Multi-Purpose" Gear Lubricant.

CORBITT



Models G101, G301, G302, G402, G601, G602, G603, D202, D401, D402, D404, D601, D801, D802, D803, D808

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY * Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
G101	7	12	20	28
G301	8	16	23	30
G302	8	16	31	35
G402	8	16	31	35
G601	18	24	30	47
G602	18	24	30	49
G603	18	24	30	53½
D202	7	12	20	26
D401	15	16	23	35
D402	15	16	31	35
D404	12	24	31	...
D601	13	15	30	40
D801	20	24	30	42
D802, D803, D808	28	24	30	42

*—Without filter. *—Oil pan.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AABM Group No.
G101	100*	13	Pos	1
G301	140	19	Pos	4
G601, G602, G603, G302, G402	140*	19	Pos	4
D202, D401, D402, D601, D801, D802, D803, D808	200**	25	Pos	4
D404	200*	25	Pos	7D

*—2 Batteries. **—4 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
G101, G301, G302, G402, G601, G602, G603	⅞" (18) 20–25 ⅝" (18) 35–40 ⅞" (20) 70–75	½" (20) 85–95 ⅞" (18) 120–130 ⅝" (18) 135–145	
D202	158	77*–95**	140
D401, D402	158	175	158
D404	190–210	(1)	40–45
D601	⅝"–175 1"–280	175	158
D801, D802, D803, D808	430–450	310–330	105–115

*—Center and Rear. **—Front and Intermed.
(1)—Advance nuts 60° from snug position.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	Exhaust	SPARK PLUG Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
G101	Con M6330	6-4x4⅜	40–50–50	6½°B	.....	.022a	.022a	.022ab	AC	84	18mm	.025	.020	6°B	.....	108
G301	Con B6371	6-4⅛x4⅝	40–50–50	6½°B	.....	.022	.017	.025b	AC	85	18mm	.025	.020	6°B	.....	123
G302	Con B6427	6-4⅛x4⅞	40–50–50	6½°B	.....	.022	.017	.018b	AC	84	18mm	.025	.020	7°B	.....	124
G402	Con T6427	6-4⅛x4⅞	40–60–50	16°B	.....	.022	.017	.017	CH	C6	18mm	.025	.020	7°B	.....	115
G601	Con R6513	6-4½x5⅝	50–60–60	17°B	.....	.0245	.020	.020b	AC	85	18mm	.025	.020	5°B	.....	120
G602	Con R6522	6-4¾x5⅝	50–60–60	17°B	.....	.0245	.020	.020b	AC	85	18mm	.025	.020	5°B	.....	120
G603	Con R6602	6-4⅞x5⅝	50–60–60	17°B	.....	.0245	.020	.020b	AC	85	18mm	.025	.020	5°B	.....	120
D202	Her DJXH	6-3¼x4½	45–2000	12°B	.....	.010	.010	.010	.....	.....	.....	Diesel		.....	.....	.....
D401	Her DWXD	6-4¼x4¾	50–2600	17½°B	.....	.010	.010	.010	.....	.....	.....	Diesel		.....	.....	.....
D402	Her DWXLD	6-4¼x5	.....	.....	.....	.....	.....	.....	.....	.....	.....	Diesel		.....	.....	.....
D404	Cum JBS600	6-4½x5	30–50–2500	41°B	.....	.015	.015	.025	.....	.....	.....	Diesel		.....	.....	.....
D601	Her DRXC	6-4⅝x5¼	30–1200	12°B	.....	.016	.016	.016b	.....	.....	.....	Diesel		.....	.....	475
D801	Cum HB600	6-4⅞x6	30–40–1800	5°B	.....	.014	.014	.022b	.....	.....	.....	Diesel		.....	.....	525
D802	Cum HRB600	6-5⅛x6	30–40–1800	5°B	.....	.014	.014	.022	.....	.....	.....	Diesel		.....	.....	525
D803	Cum NHB600	6-5⅛x6	30–40–2000	20°B	.....	.009	.009	.027b	.....	.....	.....	Diesel		.....	.....	525
D808	CumHRBB600	6-5⅛x6	30–40–2000	5°B	.....	.014	.014	.022	.....	.....	.....	Diesel		.....	.....	525

a—With Roto valves, set @ .018. b—With Stelite valves, increase .003.

VALVE SPRINGS

MODEL	Valve Open Pressure (Ave.) Pounds	Valve Open Length Inches	Valve Closed Pressure (Ave.) Pounds	Valve Closed Length Inches
G101	111–118	1.521	53–59	1⅞
G301, G302 O.	102–110	1.521	53–59	1⅞
I.	28–32	1⅜	11.3–14.3	1⅞
G402 O.	129	1.458	71	1⅞
I.	57	1⅜	12.8	1⅜
G601, G602, G603 O.	160–170	1.75	67–73	2.25
I.	82–88	1.75	33–37	2.25
D202 O.	55	1.406	31	1.781
I.	37	1.281	19	1.659
D401, D402 O.	73	1⅜	34	1⅜
I.	64	1⅜	25	1⅞
D404	108–118	2	66–72	2⅛
D601 O.	48	1.449	27	1.844
I.	30	1.355	17	1.75
D801	129–143	2⅛	83–91	3⅛†
D802, D808	129–143	2⅛	83–91	2⅛
D803	102	1⅞	72	3¼†

†—Free length. I—Inner. O—Outer.

FRONT END

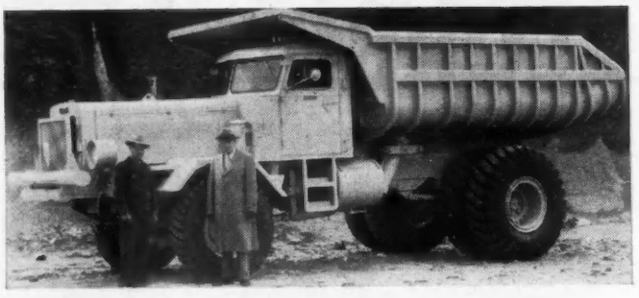
MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
All 2-Wheel Drive (1947-51)	⅛-¼	1	2-3½	8°
All Front Wheel Drive (1947-51)		0	5-7	

*—All trucks using FD900 and FE900 front axle—5½°.

LUBRICATION

MODEL	ENGINE Viscosity and Temperature Range			TRANSMISSION Summer	TRANSMISSION Winter	REAR AXLE Summer	REAR AXLE Winter	STEERING GEAR Summer	STEERING GEAR Winter	UNIVERSAL JOINT
All Diesels (1947-51)	40 above 90°	30 above 32°	20 below 32°	140	90	140	90	140	140	140
All Gasoline Models (1947-51)	50 above 90°	40 above 32°	30 below 32°	140	90	140	90	140	140	140

DART



Models: 100, 110, 140, 200 Series, 250 Series

LINN

Models: A-15, A-25, A-35, A-45, L-2, L-4, L-6, L-8

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing on pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AA&M Group No.
DART—100, 110, 200/300, 200/456	120	17	Pos	....
140, 250/462, 250/472	168**	17	....	....
LINN—All Models	135	19	Pos	4

**—12 Volt Battery.

TENSIONS

ENGINE MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
DART			
100, 200/3010, 200/456	129-134	129-134	120-125
110	160-170	155-185	.....
140, 250/472	300	260	263
250/462	175	241-250	72-75
LINN			
A-15, A-25, A-35,	52½	Note 1	38½
A-45	75	Note 1	52½

Note 1—Front and Inter.—70; Center and Rear—59½

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
DART—100	10	24	38	42
110	15	24	39	55
140	28	44	100	55
200/3010	10	16	28	42
200/456	10	32	64	42
250/462	18	29	52	46
250/472	28	29	56	55
LINN				
A-15, A-25, A-35, A-45	6	2½	6*	22

*—Front axle only.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
DART—100, 200/3010, 200/456	Wau 140GK	6-4½x5½	40	5°A	.....	.010	.012-4C	.018-20C	CH	8 COM	18mm	Z	.018	.....	.....	.....
110	Det 6094	6-4½x5	30	.....	.....	.....	.012	.012	.....	.....	Di	esel	.....	.....	.....	.....
140, 250/472	Her DFXH	6-5¾x6	38	.....	.....	.010	.010	.016	.....	.....	Di	esel	.....	.....	.....	.....
250/462	Wau 145GK	6-5¼x6	40	5°A	.....	.010	.012-4C	.023-25C	CH	8 COM	18mm	Z	.020	.....	.....	.....
LINN—A-15, A-25	Her JXE3	6-3½x4¼	26-1600	5°B	.....	.006	.008	.010	AL	A5	14mm	.025	.018	4°B	.....	.....
A-35, A-45	Her JXC	6-3¾x4¼	26-1600	5°B	.....	.008	.008	.010	AL	A5	14mm	.025	.018	4°B	.....	.....

Det—Detroit Diesel (GM). Z—.025-.030. C—Cold

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
DART—All Models—See Listing under Engine Manufactures, pages 92-95				
LINN—L-2, L-4	37	1.281	19	1.656
L-6, L-8, A-15, A-25, A-35, A-45	58	1.594	43	1.920

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
DART—All Models	1/8-1/4	1	1	8
LINN—All Models	1/8-1/16	3/4	2	2

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
DART—All Models	(S & W) 30	(Extreme Cold) 20	.....	90	140	90	140	90	140	90
LINN—All Models	40 above 90°	30@32°-90°	20@10°-32°*	140	90	140	90	140	90	B

* 10, 10W Below 10°. S—Summer. W—Winter. B—Chassis lube.

DIAMOND T

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
222	6	4½	6	19
322	6	4½	8d	19
404SC	9	4½	8d	26
420	9	4½	11d	24
509C	9	4½a	11d	26
509SC	9	4½a	13d	24
520	9	4½	14d	24
614C	9	12	20	23
614SC	9	12	23d	22
620	9	12	22d	24
660	10	18	22	38
720	10	18	20	36
722	10	18	30	42
920	18	15	30	47
921	20	15	22	40
921R	50	44	30	39

a—Capacities shown are for standard transmissions. The following, furnished on certain models, are optional.

WARNER
T9-T9A—4½ pt.
T87—4½ pt.
T98—6 pt.

CLARK
205V-VO—12 pt.
270V-VO—20 pt.
276V—20 pt.
290V-VO—18 pt.
291V—18 pt.
326V-VO—24 pt.

FULLER
5A-65—24 pt.
10B-1120—44 pt.

SPICER
6252-6253—15 pt.
7751-7851—26 pt.
8251A—24 pt.
8255—24 pt.

b—Aux. trans.—8 pt.
c—Aux. trans.—12 pt.

d—Capacities shown are for standard axles. The following optional axles are furnished on certain models.

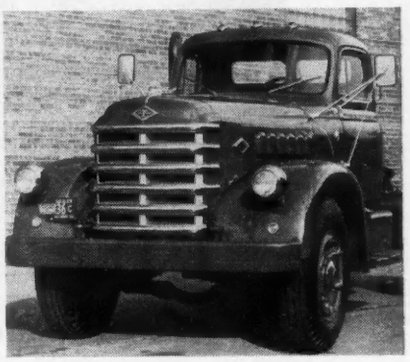
CLARK
R-950—9 pt.
R-1000—11 pt.
R-1250—14 pt.

EATON
1350—13 pt.
13600—13 pt.
16500—17 pt.
16600—20 pt.
18500—20 pt.
18501—20 pt.
18600—22 pt.

18601—22 pt.
20500—22 pt.
22501—32 pt.

TIMKEN
L-100—23 pt.
L-200—31 pt.
L-300—29 pt.
Q-200—34 pt.
Q-300—32 pt.
R-100—30 pt.
R-200—36 pt.
R-300—34 pt.

U-200P—38 pt.
U-300—39 pt.
S-200P—38 pt.
SW-3012—17 pt.
SD-3010—14 pt.
SW-3010—14 pt.
SD-462W—20 pt.
SW-456W—20 pt.
SBD1055—19 pt.
SBD1555—22 pt.
SFD460—26 pt.



All Current Models

If optional engine used, see pages 112-115.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
404SC, 222, 322	100	15	Pos	M
509SC, 614SC, 620	150	19	Pos	4H
420, 520	120	17	Pos	2H
509C, 614C	152	19	Pos	4H
660	150	19	Pos	4H
720	168	21	....	5H
722	168	21	....	5H
920	168	21	....	5H
921	168	21	....	5H
921R	168	21	....	5H

a—SAE No. M. b—SAE No. 7B. e—SAE No. 2H.
c—SAE No. 5H. d—SAE No. 4H.

TENSIONS See pages 112-115

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before	A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before	A-After	Comp. Pressure at Cranking Speed
222, 322	Her QXLD	6-3⅞x4½	25-40-3200	5°B	.....	.006	.008	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
404SC	Her JXE-3	6-3½x4¾	25-40	5°B	.....	.010	.008	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
420	Her JXB	6-3⅝x4¾	25-40-3000	5°B	.....	.010	.008	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
420, 509C, 509SC, 520	Her JXC	6-3¾x4¾	25-40-3000	5°B	.....	.010	.008	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
420, 614C, 614SC, 520, 620	Her JXD	6-4x4¼	25-40-3000	5°B	.....	.010	.008	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
614SC, 520, 620	Her JXLD	6-4x4½	25-40-3000	5°B	.....	.010	.010	.010	CH	J-6	14mm	.027	.020	6°B		.....		....
660	Cont T6427	6-4⅛x4⅞	35-43-2800	20°B	.....	.022	.017	.022	CH	8 Com	14mm	.027	.020	10°B		.....		....
720	Cont T6427	6-4⅛x4⅞	35-43-2800	20°B	.....	.022	.017	.022	CH	8 Com	14mm	.027	.020	10°B		.....		....
722	Herc TOXB	6-4⅝x5¼	25-30-2600	5°B	.....	.010	.010	.016	AL	AT-8	14mm	.027	.020	2°B		.....		....
920	Cont R6572	6-4⅝x5⅝	50-55-2600	17°B	.....	.024	.020	.024	CH	5 Com	14mm	.027	.020	5°B		.....		....
921	Cum HB600	6-4½x6	55-1800	.....	.....	.....	.....	Diesel	.....	.....	.....	.....	.....	.....		.....		....
921R	Cum HRBB600	6-5½x6	55-1800	.....	.....	.....	.....	Diesel	.....	.....	.....	.....	.....	.....		.....		....

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches	K. P. SLANT (In degrees)
Her QXLD	48 lb. for 1 in. defl.			2⅛–2⅜†	
Her JXE-3, JXB, JXC, JXD	60-65 at 1.594 length			2⅛†	
Her JXLD	112 at 1.628 length*				
Her WXLC, WXLD O.	97-107 at 2⅛ length				
I.	47½–52½ at 2⅛ length			3⅛†	
Her TDXB	97-107 at 2⅛			3⅛†	
Cont T6427 O.	65-73 at 1⅞			2⅝†	
I.	26-32 at 1⅞			1⅝†	
Cont R6572 O.	67-73 at 2¼ length			2⅛†	
I.	32-38 at 2¼ length			2⅝†	
Cum HB600, HRB600	129-143	2	83-91	2⅛	

f—Free Length. I—Inner. O—Outer.
*—Data shown with 4 active coils; with 5 active coils; 58.6 lb. at 1.584 in. length.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
222, 322	⅛	1	3	9
404SC, 509SC, 420, 520	⅛	1	1½	9
509C, 614C, 614SC, 620	⅛	1	1½	8½
720, 722	⅛	1°	1½	5½
660, 806C	⅛	1	1½	6
920, 921, 921R	⅛	1°	3	6½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range: Summer	Winter	TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
404SC, 509SC, 614C, 806C	40	30	140	90	A	B	140EP	140EP	140
222, 322, 420, 520, 620, 614SC	40	30	140GO	90GO	A	B	140EP	140EP	140
660, 720, 921R*	40	30	140GO	90GO	A	B	140EP	140EP	140GO
722	40	30	140C	140C	A	B	140EP	140EP	140GO
920, 921*	40	30	50MO	50MO	A	B	140EP	140EP	140GO

No. —Heavy-duty detergent (HD) engine oil recommended for heavily worked and highway trucks; premium-type engine oil for city trucks and intermittent operation.

A—Clark spiral bevel axles, 140EP; hypoid 90HYP. Eaton 2-speed, 90EP, 140EP above 100°; hypoid 90MPGL. Timken spiral bevel axles 140GO; hypoid 140MPGL; worm drive 140GO

B—Clark spiral bevel axles 90EP; hypoid 90HYP. Eaton 2-speed 90EP; hypoid 90MPGL. Timken spiral bevel 140GO; hypoid 140MPGL; worm drive 140GO.

C—With Spicer transmission 50MO summer and winter.

MPGL—Multi-purpose gear lubricant. GO—Straight mineral gear oil. MO—Motor oil. EP—Extreme pressure lube. HYP—Heavy-duty hypoid tube.

*—921, 921R—Above 80°, SAE30; 20°–80°, SAE 20; below 20° and in newly rebuilt engines, 10.

DODGE

Series B-3-B, B-3-C, B-3-D, B-3-PW, B-3-F, B-3-G, B-3-H, B-3-J, B-3-K, B-3-R, B-3-T, B-3-V, B-3-Y

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
B-3-B, B-3-C	5	3½	5½	17½
B-3-D	5	3½	5½	17½
B-3-PW	5	6	8	17
B-3-DU	5	3½	4¼	17
B-3-EU	5	6	4¼	17
B-3-F	5	6	11	19¼
B-3-G, B-3-GM, B-3-H, B-3-HM, B-3-HH, B-3-HHM	5	9	11	19¼
B-3-J, B-3-JM	5	11	10	21½
B-3-K, B-3-KM	5	11	20	21½
B-3-R	8	11	20	30¾
B-3-T	8	11	23	30¾
B-3-V	8	11	31	30¾
B-3-Y	8	16	31	34

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
B-3-B, B-3-C, B-3-PW	100	15	Pos
B-3-D, B-3-DU, B-3-EU	105	15	Pos
B-3-F, B-3-G, B-3-GM, B-3-H, B-3-HH, B-3-HM, B-3-HHM	114	17	Pos
B-3-J, B-3-JM, B-3-K, B-3-KM	120	17	Pos
B-3-R	136	17	Pos
B-3-T, B-3-V, B-3-Y	153	17	Pos

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds feet)
All Models except as listed below.	Nuts 82-87 Cap Screws 65-70	80-85	45-50
B-3-R, B-3-T, B-3-V, B-3-Y	55-60 Hot	85-90	50-75

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. of R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
B-3-B, B-3-C	Own 218	6-3¼x4⅜	40-800	12°B	5B	.....	.010	.014	AL	A5R	14mm	.035	.020	TC	TC	120
B-3-D, B-3-PW, B-3-DU, B-3-EU	Own 230	6-3¼x4⅜	40-800	8°B	.....	.....	.010	.014	AL	A5R	14mm	.035	.020	2°A	⅛A	125
B-3-F, B-3-G, B-3-GM, B-3-H, B-3-HH, B-3-HM, B-3-HHM	Own 237	6-3 7/16x4¼	40-800	12°B	5B	.....	.010	.014	AL	A5R	14mm	.035	.020	TC	TC	130
B-3-J, B-3-JM, B-3-K, B-3-KM	Own 251	6-3 7/16x4½	40-800	12°B	5B	.....	.010	.018	AL	A5R	14mm	.035	.020	2°A	⅛A	130
B-3-R	Own 306	6-3¾x4⅜	50-1000	21°B	9B	.....	.010	.018	AL	A5R	14mm	.035	.020	1°A	.....	110
B-3-T, B-3-V	Own 331	6-3¾x5	50-1000	21°B	9B	.....	.010	.018	AL	A5R	14mm	.035	.020	TC	.....	120
B-3-Y	Own 377	6-4x5	50-1000	20°B	.....	.....	.....	.....	AL	A5R	14mm	.035	.020	2°A	⅛A	133

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
All Models (except as listed below)	30 above 32°	20W@10° to 32°	10W below 10°*	90	90A	90	90A	90	90	C
B-3-K	30 above 32°	20W@10° to 32°	10W below 10°*	90	90A	140	90	90	90	C
B-3-R, B-3-T, B-3-V, B-3-Y	30 above 32°	20W@10° to 32°	10W below 10°†	90	90A	140	90	90	90	C

*—Use 5W below −10°. C—Universal joint grease.
†—Use 10% kerosene below −10°.
A—SAE 80 below −10°.

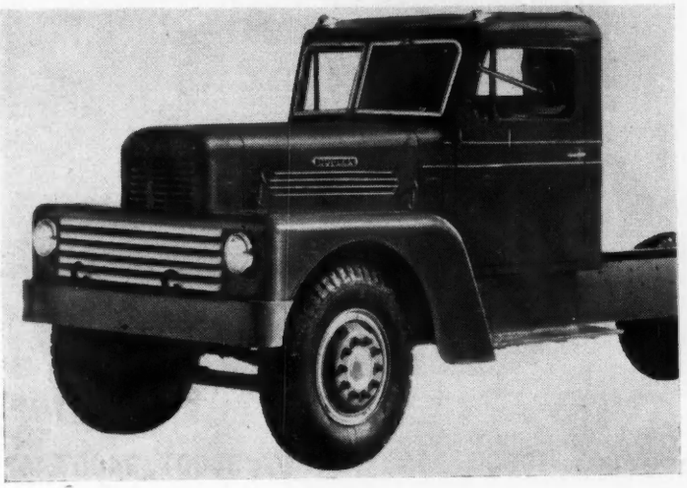
FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
B-3-PW	0-1/16	1½	1½ Load, ½ No Load	8
B-3-B	1/16	1½	3¼ Load, 1½ No Load	4
B-3-C, B-3-D	1/16	1½	2¾ Load, 1 No Load	4
B-3-DU	1/16	1½	2½ Load, 1½ No Load	4
B-3-F, B-3-G, B-3-GM, B-3-H, B-3-HH, B-3-HM, B-3-HHM, B-3-J, B-3-JM, B-3-K, B-3-KM	1/16-1/16	2	3 Load, 2 No Load	7
B-3-EU	1/16-1/16	2	2½ Load, 1½ No Load	7
B-3-R	1/16-1/16	2	3¼ Load, 2½ No Load	7
B-3-T	1/16-1/16	1	2¾ Load, 1¾ No Load	3
B-3-V, B-3-Y	1/16-1/16	1	3½ Load	3½

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
All Models except as listed below	111	1 3/16	42½	1¾
B-3-R, B-3-T, B-3-V	108	1 5/16	42½	2
B-3-Y	125	1 11/16	70	2

DUPLEX



Series TH, RH, JH, KH, LH, GR-6

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
TH	8	11	B	27
TH339	10	11	C	27
GR-6	7	16A	12	3½
RH	7	16	D	32½
JH	10	24A	E	32½
KH, LH	10	24A	F	32½

A—Aux. trans., 8 pt.
B—With Tim H100, 20 pt.; H200, 28 pt.; H300, 26 pt.
C—With Tim L100, 23 pt.; L200, 31 pt.; L300, 29 pt.
D—With Tim Q100, 31 pt.; Q200, 34 pt.; Q300, 32 pt.
E—With Tim S200, 38 pt.; S300, 39 pt.
F—With Tim U200, 38 pt.; U300, 39 pt.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE/AABM Group No.
TH, TH339	110	13	Pos	2E
GR-6, RH, JH, KH, LH	152	19	Pos	4

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
Her WYC-3	60	*105 **70	53
Her JXD	75	*70 **80	56
Her WXLC3	75	*52 **63	52
Her RXB, RXC	75	*122 **105	80
Her RXLD	80	175	80
Her JXLD	75	*70 **60	56

*—Front and intermediate.
**—Center and rear.

TUNE UP

TRUCK MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
TH	Her JXD	6-4x4¼	26-1000	5°B	.....	.006	.008	.010	AL	A5B	14mm	.025	.020	6°B	.....	.....
TH339	Her JXLD	6-4x4¼	26-1000	5°B	.....	.008	.008	.010	AL	A5B	14mm	.025	.020	6°B	.....	.....
GR-6	Her WXC-3	6-4½x4½	26-1000	.....	.....	.....	.012	.016	AL	A5B	14mm	.025	.020	.....	.....	.....
RH	Her WXLC3	6-4¼x4¾	26-1000	5°B	.....	.....	.012	.016	AL	A5B	14mm	.025	.020	TC	.....	.....
JH	Her RXB	6-4½x5¼	26-1000	2°A	.....	.010	.010	.016	AL	A5B	14mm	.025	.020	.....	.....	.....
KH	Her RXC	6-4½x5¼	26-1000	2°A	.....	.010	.010	.016	AL	A5B	14mm	.025	.020	.....	.....	.....
LH	Her RXLD	6-4¾x5¼	26-1000	2°A	.....	.010	.010	.016	AL	AT8	14mm	.025	.020	.....	.....	.....

VALVE SPRINGS

ENGINE MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
JXD	58	1.594	43	1.920
WXLC3	102	2[illegible]	50	2[illegible]
RXB, RXC	102	2[illegible]	50	2[illegible]
RXLD	102	2[illegible]	50	2[illegible]
JXLD	58	1.594	43	1.920

FRONT END

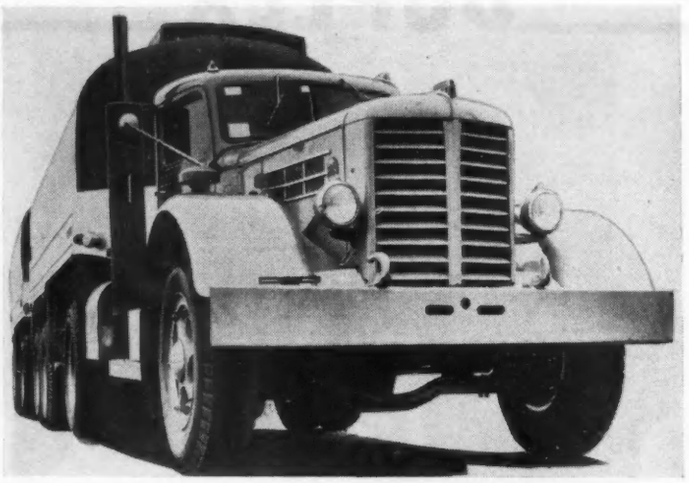
TRUCK MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
TH, TH339	[illegible]	1°	2°	8°
RH, GR-6, JH, KH, LH	[illegible]	1°	2°	5½°

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
TH, TH339	40 above 80°	30@32° to 80°	20W below 32°	140	90	140 Hyp	90 Hyp	A	A	B
RH, JH, KH, LH, GR-6	50 above 80°	40@32° to 80°	20W below 32°	140	90	140 Hyp	90 Hyp	A	A	B

Hyp—Hypoid gear lube A—Special steering gear lube. B—Chassis lube

FEDERAL



Series 1600T, 1800T, 2500T, 2900T, 3000T, 3400T, 629M, 35M, 635M, 45M, 645M, 55M, 60M, 65M, 663M, 664M,

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
1600T	8	4	3-6½	20
1800T	9	4	7	25
2500T	9	13	19-13	25
2900T, 629M Series	9	13*	12A	25
35M, 35M2, 635M	8	20*	12A	25
45M, 45M2, 645M	8	20*	18A	31
55M, 55MA	8	20*	19	31
60MA, 60M2	10	12**	38	38
65M2, 65MA	14	12**	40	49
663MA, 664MA, 664MAB	14	12**	40A	40
2501T, 2502T		7		23

*—In "MA" Models add 10 pts. for aux. trans
**—In "MA" Models add 13 pts. for aux. trans.
A—On 6-wheelers, same for each rear axle.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
629M, 35M, 635M Series	136	17	Pos	3
45M, 645M, 55M, 60M Series	135	19	Pos	3
65M2, 65MA, 663MA, 664MAB, 664MA	152*	19	Pos	3

*—2 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
1600T, 1800T, 2500T, 2900T, 629M Series	75	*60 **70	55
35M, 635M, 45M, 645M, 55M, 60M, 65M, 663M, 664M Series	See data under CONTINENTAL, PAGE 112		

*—Center and rear. **—Front and intermediate.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before	A-After	Comp. Pressure at Cranking Speed
1600T Series (1951)	Her OXLD	6-3⅞x4½	26-1600	5°B	Var	.006	.008	.010	....	Opt	....	.025	.020	N	N		Opt
1800T Series	Her JXB	6-3⅝x4½	40-2500	5°B	.....	.008	.008C	.010C	CH	J10COM	14mm	.025	.020	10°B	3B		98
2500T Series	Her JXC	6-3⅞x4½	40-2500	5°B	.....	.008	.008C	.010C	CH	J10COM	14mm	.025	.020	10°B	3B		98
2900T, 629M Series	Her JXD	6-4x4¼	40-2500	5°B	.....	.008	.008C	.010C	CH	J10COM	14mm	.025	.020	10°B	3B		98
3000T, 629ML Series	Her JXLD	6-4x4½	40-2500	5°B	.....	.010	.010	.010	CH	J10COM	14mm	.025	.020	10°B	.....		....
3400T, 35M, 635M Series	Con T6371	6-4⅛x4⅝	40-2500	16°B	.....	.022	.017	.017	....	.....	18mm	.025	....	.....	.....		....
45M, 55M, 645M Series	Con T6427	6-4⅛x4½	55-2600	16°B	.....	.022	.017	.017	....	.....	18mm	.025	....	.....	.....		....
60M Series	Con 22R	6-4½x5¼	30-1000	5½°B	.....	.014	.012	.012	CH	6COM	18mm	.025	.020	15°B	.....		....
65M, 663M, 664M Series	Con R-6502	6-4½x5¾	55-2600	6½°B	.....	.....	.017	.017	CH	8COM	18mm	.025	.020	7°B	.....		90

C—Cold.

VALVE SPRINGS

MODEL		Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
1600T, 1800T, 2500T, 2900T Series		52	1 9/16 at 1.6	31 at 1.28 length	1 11/16
3000T, L, 629ML Series					
3400T, 35M, 635M, 45M, 645M, 55M Series	O.	129	1.458	71	1 7/16
	I.	57	1 1/2	12.8	1 11/16
60M Series	O.	110	1 7/8	58¾	2 1/4
	I.	50	1 11/16	22½	2 7/16
65M, 663M, 664M Series	O.	160-170	1¾	67-73	2¼
	I.	82-88	1¼	33-37	2¼

I—Inner. O—Outer.

FRONT END

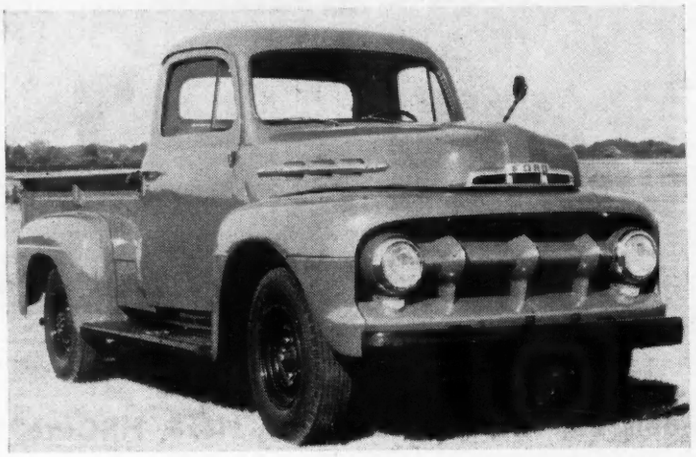
MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
All Models (1944-51)	⅛	1	3	8

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
All Models (1944-51)	N-40, H-50 @50° to 110°	30@15° to 50°	10W@-20° to 15°	160	90	160	90	.....	.....	160

N—Normal service. H—Heavy duty.

FORD



Models F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8

CAPACITIES

MODEL	LUBRICANT* CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
F1 (6-cyl.)	5A	2¾BC	3	18
F1 (8-cyl.)	5A	2¾BC	3	23
F2, F3 (6-cyl.)	5A	5B	3	18
F2, F3 (8-cyl.)	5A	5B	3	23
F3, Parcel Del.	5A	6	3	18
F4, F5, F5 COE (6-cyl.)	5A	5BD	5E	18
F4, F5, F5 COE (8-cyl.)	5A	5BD	5E	23
F6, F6 COE (226 cu in. 6)	5A	5D	10E	18
F6, F6 COE (8-cyl.)	5A	5D	10E	23
F6, F6 COE (254 cu in. 6)	6A	8	10E	18
F7*	9A	10	11	33
F8	9A	10	22F	33

A—Refill shown—when filter replaced add 1 qt.
B—Optional 3-speed H. D. Transmission—6 pts.
C—Optional 4-speed Transmission—5 pts.
D—Optional 4-speed Synchro-Silent Trans.—8 pts.
E—Optional 2-speed axle on F5 or F6—15 pts.
F—Optional 2-speed axle—19 pts.
*—With 2-speed axle—20 pts.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
F1 thru F6 (6-cyl.)	100	17	Pos
F1 thru F4 (8-cyl.)	90	15	Pos
F3 and F6 (8-cyl.)	100	17	Pos
F5 Schoolbus	120	17	Pos
F7 and F8	120	17	Pos

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
F1 through F6	65-70	95-105	45-50
F7 and F8	65-70	120-130	52-60

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
F-1, F-2, F-3, F-4, F-5, F-6	Own 7HT	6-3.3x4.4	50-2000	11°B	.....	.015	A	B	CH	H-9	14mm	C	.025	TC	.....	110
F-8	Own 8MTH	6-3.5x4.4	50-2000	11°B	.....	.015	A	B	CH	H-9	14mm	C	.025	TC	.....	110
F-1, F-2, F-3, F-4, F-5, F-6	Own 8RT	8-3 1/16x3¾	50-2000	TC	.....	.015	D	E	CH	H-9	14mm	C	.015	2°B	.....	110
F-7, F-8	Own 8EQ	8-3½x4⅛	50-2000	5°B	.....	.015	.010-.012	.014-.016	CH	H-9	14mm	C	.015	4°B	.....	112

A—.009-.011 cold. B—.013-.015 cold. C—.025-.028. D—.013-.015 cold. E—.017-.019 cold.

VALVE SPRINGS

MODEL ENGINES	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
6-cyl. 226 engine	112-120	1.75	47-53	2.109
6-cyl. 254 engine	112-120	1.75	47-53	2.109
8-cyl. 239 engine	76-80	1.84	37-40	2.13
8-cyl. 337 engine	140-152	1.32	62-68	1.68

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
F-1, F-2, F-3	0-1/16	¼-1	2½-4	8-8¼
F-4 through F-8	0-1/16	¼-1	1-3	8-8¼

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range	TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
F-1	F-7 and F-8 Heavy Duty Oils recommended. F-1 thru F-6 Regular Premium or Heavy Duty oils depending on type of service. Temps. above +32°F: SAE 30. Min. Temps. above +10°F: SAE 20 or 20W. Min. Temps. above −10°F: SAE 10 or 10W. Lower than −10°F: 10W plus 10% kerosene.	90EP	80EP	90HM	90HM	90EP	90EP	140EP
F-2, F-3, F-4, F-5, F-5 COE		a140EP	§90EP	140EHM	90EHM	90EP	90EP	140EP
F-6, F-6 COE		140EP	90EP	†90HM	*90HM	90EP	90EP	140EP
F-7, F-8		140EP	90EP	†90HM	*90HM	90EP	90EP	140EP

EP—Mild extreme pressure gear oil. HM—Hypoid or multi purpose lubricant. *—Temps. below −10°F use SAE 80. †—Temps. above 100°F use SAE 140.
a—F3 parcel delivery SAE 90 mild E. P. gear oil. §—F3 parcel delivery SAE 80 mild E. P. gear oil. EHM—Mild E. P. gear oil, or multi purpose lube.

FWD

Models LD, HA, HG, HR, HRC, H6x6, HRC6x6, SU, YU, ZU, M7, M7D, M10, M10D, MU6x6, M6x6, M6x6D

CAPACITIES

MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
HA	6	20	5A	28
HR, HG, H6X6	12	20	5A	28
LD	6	6	9C	16
SU	12	24	8A	32
YU (1948-50 only)	14	28	12A	46
ZU	14	28	8A	46
M7	20	28	18B	52
M10	20	28	20B	52
M6X6	20	29	20B	52
M7D	24	28	18B	52
M10D	24	28	20B	52
M6X6D	24	29	20B	52
MU6X6	20	28	12A	52
HRC6X6	14	20	5A	46

A—Same for front axle.
B—Front axle 16.
C—Front axle 6.

BATTERY

MODEL	Amp. Hr. Capacity	Numbers of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
LD	130	19	Pos	....	3
HA, HR, HG, SU*, YU*, ZU*, M6X6*, M7*, M10*	150	19	Pos	4H	4
M7D**, M10D**, M6X6D**	150	19	Pos	BD	BD
H6X6, MU6X6*	153	19	Pos	4H	4

*—2 Batteries. **—4 Batteries

TENSIONS

ENGINE MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds feet)
Wau 19JGKA	95–100	110	66–70
Wau MZA	73–75	96–100	66–69
Wau SRKR	73–75	129–133	121–125
Wau 140 GK	130–134	130–134	120–125
Wau 140 GZ	130–134	130–134	120–125
Wau 145 GK	150	242–250	65–70
Bud 6DC 844	150–160	245–275	150–160
Her QXLD-3	60	60*	39

*—Cent. and rear, bal. 70.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
HA	Wau 195GKA	6-4½x4	36–1650	10°B	.....	.010	C	D	CH	8COM	18mm	.025	.020	7°C	TC	...
HR, HG, HRT, H6X6	Wau MZA	6-4½x4¾	40–1500	8°B	3B	.008	C	D	CH	7COM	14mm	.025	.020	5°B	2	115
SU	Wau SRKR	6-4⅝x5½	40–1500	8°A	3A	.004	C	E	CH	J9	14mm	.025	.020	4°B	1½	119
YU	Wau 140GK	6-4½x5½	40–1500	5°A	1¼A	.010	A	D	CH	6COM	18mm	.025	.020	TC	.....	130
ZU	Wau 140GZ	6-4⅝x5½	40–1500	5°A	1¼A	.012	.012	.018	CH	6	18mm	.025	.020	TC	.....	130
H6X6	Wau 140GKB	6-4½x5½	40–1500	3°A	1¼A	.010	A	D	CH	6COM	18mm	.025	.020	TC	.....	130
M7, M10, M6X6, MU6X6	Wau 145GK	6-5¼x6	40–1500	5°A	2A	.006	F	G	CH	6	18mm	.025	.020	TC	.....	120
M7D, M10D, M6X6D	Buda 844	6-5¼x6½	30–1200	20°B	.....	.010	.015	.015	Diesel						.....	390
LD	Her QXLD-3	6-3 7/16x4¼	35–1600	5°B	.....	.006	.008	.010	AL	AT8	14mm	.025	.020	6°B	.....	...

A—.010–.012 cold. B.014–.016 cold. C—.008–.010 cold. D—.018–.021 cold. E—.024–.026 cold. F—.012–.014 cold. G—.023–.025 cold.

VALVE SPRINGS

MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
H6X6	100	1 11/32	64	2 11/32
HA	124	2 5/8	46	2 11/32
LD	39	1 9/32	18	1 11/32
HG, HR	93–109	1 11/32	59–69	2 11/32
SU	89–99	2 11/32	54–64	2 11/32
YU, ZU (1948-50), HRC6X6	86±6	2 1/16	31±2	1 13/32
M7, M10, M6X6, MU6X6	105–115	3 1/32	65–75	3 1/32
M7D, M10D, M6X6D	175	2 1/16	65	2 3/4

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
HA, HR, HRT, HG	1/16–1/8	1	2	8
LD	1/8	3/4	2	8
SU (1950)	1/16–1/8	1	2	8
YU, (1948-50 only), ZU H6X6, MU6X6	1/16–1/8	1	2	8
M7, M10, M6X8, M7D. M10D, M6X6D	1/8	0	5	0

LUBRICATION

MODEL	ENGINE Viscosity and Temperature Range			TRANSMISSION		FRONT AND REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
				Summer	Winter	Summer	Winter	Summer	Winter	
HA, HR, HG, H6X6	(S)L30, H40	(MW)L20, H30	(W)L10W, H20W	140	90	90EP	80EP	140	90	140-90
M7, M10, M6X6, MU6X6	(S)L40, H50	(MW)L30, H40	(W)L20W, H30W	140	90	90EP	80EP	140	90	140-90
SU, YU, ZU, HRC6X6	(S)L40, H50	(MW)L30, H40	(W)L10W, H20W	140	90	90EP	80EP	140	90	140-90
M7D, M10D, M6X6D	50 above 90°	30@32° to 90°	10 below 32°	140	90	90EP	80EP	140	90	140-90
LD	(S) L30, H40	30-50°, L30, H40	0-30°, L20, H20°	140	90	90EP	80EP	140	90	140-90

H—Heavy duty. L—Light duty. EP—Extreme pressure lube. S—Summer. W—Winter. MW—Mild winter. *—Below 0°, L10, H10.

GMC

Series 100, 150, 250, 280, 300, 350 and DIESELS

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
100-22	8	1½a	4½	17
150-22	8	1½a	6	17
P150-22	8	1½a	6	17
250-22	8	6	6	17
280-22	8	6	11	17
300-24	8	6	11	18
S300-24	8	6	11hm	18
350-24	8	6b	12h	18
F350-24	8	6b	12h	18
HCS-450	8	12	12h	18
HCW-400	8	6cb	8½†lh	18
HC-450	8	12	20p	18
HCS-450	8	12	20p	18
HC-470	8	12	22q	18
HF-470	8	12	22q	18
520 HC, HCR, HCS, HF, HFR	9	12d	20	25
600 HC, HF	9	12df	22q	25
620 HC, HCR, HF, HFR, 700 HC, HF	9	14f	22q	25
HCW-620	9	14	11t	25
640 HC, HCR, HF, HFR	9	9	22q	27
640 HDCR, 650 HDCR	11	14	22	26
650 HC, HF	9	12df	22q	25
720 HC, HCR, HF, HFR	9	9f	22q	25
720 HCW, HFW	9	9f	22†s	25
740 HC, HCR, HF, HFR	9	9f	30r	27
740 HDC, HDCR, HDF	11	9f	30r	26
750 HC, HCR, HF, HFR, 890 HC	9	9f	20j	27
750 HDC, HDCR, HDF, HDFR	11	9	20j	26
750 HDCW	11	9	22†	26
770 HC	9	14ef	38	27
850 HC, HF	9	9ef	38k	27
850 HCW	9	9ef	32†	27
870 HC	9	9ef	24	27
870 HDC	11	9ef	24	26
900 HDC	15	9g	38	37
900 HDCR	15	9	32	37
910 HDC	15	9g	30lr	37
940 HDC	15	9g	20	37
950 HDCW	15	9g	17†	37
970 HDCW	15	9	32†	37

*—Standard trans. and axles.
†—Each axle.
a—4-spd. trans., 6 pts.
b—With 5-spd. trans., 12 pts.
c—Aux. trans., 6 pts torq. divider, 3 pts.
d—4452, 4453, 4-spd. trans., 14 pts.
e—5552, 5553, 5-spd. trans., 9 pts.
f—Aux. trans., 8 pts.
g—Aux. trans., 12 pts.
h—With 2-spd. axle, 13 pts.
i—Torque divider 3 pts.
j—Heavy duty, 2-spd. axle, 32 pts.
k—2-spd. axle, 39 pts.
l—2-spd. axle, 34 pts.
m—With heavy duty axle, 12 pts.
n—DR dual, 14 pts.
o—DR dual, 26 pts.
p—HCS, Eaton, 2-spd.; 20 pts, Timken 2-spd., 26 pts.
q—DR, 19 pts.
r—DR, 36 pts.
s—Torque divider, 8 pt
t—Torque divider 5 pts.
DR—Double red. axle.
2S—2-speed.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
100-22	100	15	Pos
150-22	100	15	Pos
P150-22	100	15	Pos
250-22	100	15	Pos
280-22	100	15	Pos
300-24	100	15	Pos
S300-24	125	19	Pos
350-24	100	15	Pos
F350-24	100	15	Pos
HCS-400	125	19	Pos
HCW-410	100	15	Pos
HC-450	100	15	Pos
HCS-450	125	19	Pos
HC-470	100	15	Pos
HF-470	100	15	Pos
520 HCS	125	19	Pos
520, 600, 620, 640, 650, 700, 720, 750, 770, 850, 870, 890	115	17	Pos
All Diesels	205	27	Pos

TENSIONS

ENGINE MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
228, 248, 270	70-80	80-90	40-45
318, 360	75-80	90-100	65-75
426, 503	75-80	90-100	80 min.
All Diesels	165-175	155-185	65-75

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
100-22	1/16-⅛	1°30′	2°	7°10′
150-22	1/16-⅛	1°30′	2°30′	7°10′
P150-22	1/16-⅛	1°30′	3°30′	7°10′
250-22	⅛-¼	1°30′	2°30′	7°10′
280-22, 300-24, S300-24, 350-24	⅛-¼	1°30′	2°30′	7°10′
F350-24	⅛-¼	1°30′	3°	7°10′
HCS-400	⅛-¼	1°	1°45′	5°
HCW-400, HC-450, HCS-150	⅛-¼	1°	1°45′	5°
HC-470	⅛-¼	1°	2°30′	5°
HF-470	⅛-¼	1°	2°30′	4°
450 HF, HFR; 470 HF	⅛-¼	1°	2°30′*	4°
520 HC, HCR	⅛-¼	30′1°	2°30′*	5°
520 HCS, HF, HFR; 600 HC, HF; 620 HC, HCR, HCW, HF, HFR; 640 HC, HCR, HF, HFR; 650 HC, HF; 700 HC; 640 HDCR; 650 HDCR; 720 HC, HCR, HCW; 740 HC, HCR, HDC, HDCR; 750 HC, HCR, HDC, HDCR, HDCW; 910 HDC	⅛-¼	30′1°	2°30′*	4°
700 HF; 740 HF, HFR, HDF; 750 HF, HFR, HDF, HDFR; 770 HC; 850 HC, HCW, HF; 870 HC, HDC; 900 HDC, HDCR; 950 HDCW; 970 HDCW	⅛-¼	30′1°	2°30′*	5°30′
890 HC; 940 HDC	⅛-¼	30′1°	2°30′*	8°

*—Figures for vehicle loaded. Vehicle light minimum caster 1°.

VALVE SPRINGS

ENGINE MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
228, 248, 270	124-140	1.505	53-63	1.821
318, 360	145-157	1 13/32	67½-74½	1 13/32
426, 503	160-172	1 13/32	67½-74½	1 13/32
All Diesels	140	1 13/32	44	2 1/16

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before		Comp. Pressure at Cranking Speed
100-22, 150-22, P150-22, 250-22, 280-22	Own 228	6-3 1/16x3 1/16	35-40	14°B	.....	.014	.012	.020	AC	44 COM	14mm	.030	A	5°B	.....	110
300-24, S300-24, 350-24, F350-24, HCS-400, HCW-400	Own 248	6-3 3/16x3 1/16	35-40	14°B	.....	.014	.012	.020	AC	44 COM	14mm	.030	A	5°B	.....	110
HC-450, HCS-450, HF-450, HC-470, HF-470	Own 270	6-3 3/16x4	35-40	14°B	.....	.014	.012	.020	AC	44 COM	14mm	.030	A	5°B	.....	110
520 HC, HCR, HF, HFR, HCS, 600 HC, HF, 650 HC, HF	Own 318	6-3 7/8x4½	35-40	16°B	.....	.022	.012	.018	AC	44 COM	14mm	.030	A	6°B	.....	110
620 HC, HCR, HCW, HF, HFR, 700 HC, HF, 770 HC	Own 360	6-4 1/8x4½	35-40	16°B	.....	.022	.012	.018	AC	44 COM	14mm	.030	A	6°B	.....	110
640 HC, HCR, HF, HFR, 720 HC, HCR, HF, HFR, HCW, HFW, 870 HC	Own 426	6-4¼x5	35-40	30°24′	B.....	.022	.012	.018	AC	44 COM	14mm	.030	A	6°B	.....	110
740 HC, HCR, HF, HFR, 750 HC, HCR, HF, HFR, 850 HC, HCW, HF, 890 HC	Own 503	6-4 1/16x5 1/16	35-40	30°24′	B.....	.022	.012	.018	AC	44 COM	14mm	.030	A	2°B	.....	110
640, 650, 740, 750 HDCR, 740, 750 HDC, HDF, 870 HDF, 750 HDCW	Own 4-71	4-4¼x5	4*@Idle 25*@Gov.	†	.....	.....	a	b	.....	Diesel	.....	.....	.....	.....	.....	.....
900 HDCR, 900, 910, 940 HDC, 950, 970 HDCW	Own 6-71	6-4¼x5	4*@Idle 25*@Gov.	†	.....	.....	a	b	.....	Diesel	.....	.....	.....	.....	.....	.....

A—.018″-.024″. *—Minimum. a—Injector—Timing gage ht.—1.460″.
†—Injection begins 13° before TDC; ends 3° before TDC. Air intake opens 46° before TDC; closes 46° after TDC.
b—Exhaust valve—.008″ GO—.010″ NO GO (Hot).

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
100-22 through F350-24	20 above 32°	10W below 32°	.....	90MP	90MP(C)	90MP	90MP(C)	No. 1 SG	No. 1 SG	90ES
HCS-400 through HF-470	20 above 32°	10W below 32°	.....	50ES	50ES	90 Hyp(A)	90 Hyp(B)	No. 1 SG	No. 1 SG	50ES
HC-520 through HC-890	30 above 32°	10W below 32°	.....	50ES	50ES	90 Hyp(A)	90 Hyp(B)	No. 1 SG	No. 1 SG	50ES
All Diesels	H30 above 32°	H20W — 30°-0°	H10W below 0°	50ES	50ES	90 Hyp(A)	90 Hyp(B)	No. 1 SG	No. 1 SG	50ES

H—Heavy duty. B—Use 80 Hyp below 0°. *Worm axles straight gear oil. Hyp—Hypoid truck-type. ES—Aviation grade engine oil or heavy duty engine oil. No. 1 SG—No. 1 grade steering gear lubricant. MP—Multi-purpose gear lubricant. A—Severe conditions use 140 Hyp. C—Use 80MP below 0°.

INTERNATIONAL

Models L, LB, LC, LF and LM Series

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
L-110, 111, 112, 120, 121, 122	7	3a	4	17
LM-120, 121, 122	7	6	4	17
L-130, 131, 132	7	5a	4	17
L-150 ,151 ,152, 153	7	5b	3	18
LB140	7	k	3	17
LM-150, 151, 152	7	6	3	17
L-160, 161, 162, 163, 164, 165, LC-160, 161, 162	7	8	8c	18
L-170, 171, 172, 173, 175, LF-170, 171, 172	7	8d	8c	21
L-180, 181, 182, 183, LC-180, 181, 182	7	12	11e	21
L-184	7	12	20f	21
L-174	7	8d	11e	21
L-185	9	12h	20	28
L-190, 191, 192, 193, 195	9	19	20f	28
L-194, 200, 201, 202	9	19	18f	28
LF-190, 191, 192	9	19	12	28
L-204	9	19	38j	28
L-205	9	24	18f	28
L-210, 211	9	24	38j	28
LF-210, 211, 212	9	24	11	28

a—Optional transmission—6 pints.
b—Optional transmission—8 pints.
c—With optional 2-speed axle—13 pints.
d—With optional transmission—12 pints.
e—With optional 2-speed axle—20 pints.
f—With optional 2-speed axle—22 pints.
g—With optional 2-reduction axle—19 pints.
h—Optional transmission F-52 or F-52-C—19 pints.
j—Optional 2-speed axle—37 pints.
k—Two-speed trans. with torque converter. Converter holds 16 pts. Trans. holds 5 pts. Converter uses SAE 10 Regular.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
SD-220, SD-240	105	45	Pos	2	2
BD-269	135	57	Pos	2	2
RD-372, RD-406, RD-450	152	57	Pos	4	4

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
SD-220, SD-240	85–95	75–85	45–55
BD-269	75–85	100–110	60–70
RD-372, RD-406, RD-450	100–110	100–110	75–85

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
L-110 to L-153, inc. LM-120 to LM-150, inc.	SD-220	6-3 3/16 x3 11/16	15-20*	10°B	.....	.023	F	F	a	.....	14mm	.030	.022	2°B	.....	.....
L-160 to L-165, inc. LC-160, 161, 162, LB-140	SD-240	6-3 3/16 x4 1/4	15-20*	10°B	.....	.023	F	F	a	.....	14mm	.030	.022	2°B	.....	.....
L-170 to L-184, inc. LC-180, 181, 182	BD-269	6-3 3/16 x4 1/2	15-20*	5°B	.....	.023	F	F	b	.....	14mm	.030	D	3°B	.....	.....
L-185, L-190 to L-195, inc.	RD-372	6-4 5/16 x4 1/2	15-20*	8°B	.....	.023	F	F	c	.....	14mm	.030	D	5°B	.....	.....
L-200, 201, 202, 204, LF-190, 191, 192	RD-406	6-4 5/16 x4 1/2	15-20*	8°B	.....	.023	F	F	c	.....	14mm	.030	D	5°B	.....	.....
L-210, 211, LF-210, 211, 212	RD-450	6-4 5/16 x5	15-20*	8°B	.....	.023	F	F	c	.....	14mm	.030	D	5°B	.....	.....

*—Minimum at idle. F—.018-.020. D—.018-.024. a—AC-95 COM, Champion J-8, Auto-Lite AN-7.
b—AC-45 Com., Champion J-8, Auto-Lite AN7. c—AC-43 Com., Champion J-6, Auto-Lite AN5. d—AC-82 Com., Champion 5 Com., Auto-Lite BT4.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
SD-220, SD-240	145	1.683	.....	2 11/16*
BD-269	107	1.668	.....	2 11/16*
RD-372, RD-406, RD-450 I.	85½	1.503	.....	2 11/16*
O.	137	1.706	.....	2 5/16*

*—Free length. O—Outer. I—Inner.

FRONT END

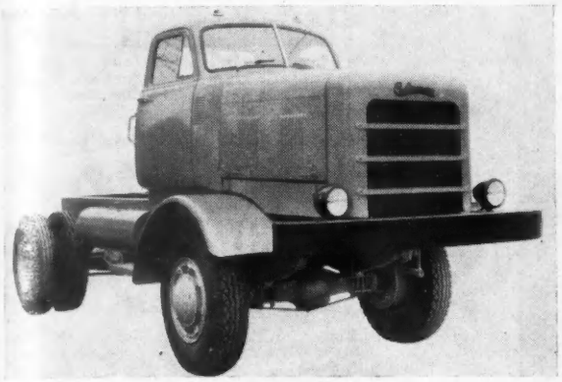
MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
L-110, 111, 112, L and LM-120, 121, 122, L-130, 131, 132	1/16–1/8	2	2-3	4
All Other Models	1/16–1/8	1	2-3	4

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
SD	M30 above 32°	20W above 10°	10W below 10°*	140a	90	140a	90	.....	.....	.....
BD, RD	M40 above 32°	20W above 10°	10W below 10°*	140a	90	140a	90	.....	.....	.....
SD	H SAE 40†	.....	.....	140a	90	140a	90	.....	.....	.....
BD, RD	H SAE 50†	.....	.....	140a	90	140a	90	.....	.....	.....

*—Temperatures below —10° F, use SAE 10W + kerosene. †—If starting ability will not permit, use next lower viscosity. M—Multi-stop service, no sustained high engine speeds.
H—Highway service with sustained high engine speeds. a—Use SCL, EP gear oil or multipurpose gear lubricant. EP—Truck-type extreme pressure lube.

COLEMAN KENWORTH



Model G-55-S

Models 521 to 888

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing on pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AABM Group No.
KENWORTH				
All Gasoline Models	168*	21	Pos	4
All Diesel Models	168**	21	Pos	4
COLEMAN G-55-S	135**	21	Pos	5

*—2 Batteries. **—4 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
KENWORTH, Cum	430–450	310–330	105–115
Wau 140GZB	175	125–133	95–100
COLEMAN, G-55-S	95–105	150–160	95–100

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
KENWORTH 521, 522	20	16	38	54
523	20	16	17ea	54
524	20	16	32ea	54
548	20	16	28ea	54
552	20	16	28ea	54
584	20	16	28ea	54
585	10	24	30	58
825	20	16	32ea	54
829	10	24	14ea	58
888	28	16	.....	54
COLEMAN G-55-S	12	24	12	48

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
KENWORTH																
521, 522, 523, 524, 548, 552, 584, 825	Cum HB-600	6-4⅞x6	55	5°B			.014	.022			Diesel					525
585, 829	Wau 140GZB	6-4⅝x5½	40-2600	15°B			.014C	.025C			14mm	.025	.020	0°		130
888	Cum NHB-600	6-5½x6	55	20°B			.014	.027			Diesel					
COLEMAN G-55-S	Bud LO-525	6-4½x5½	30-2000	10°B			.009	.013	AC	44	14mm	.025	.025	35B		

C—Cold

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
KENWORTH				
521, 522, 523, 524, 548, 552, 584, 825	136	2 3/32	87	2 11/32
888	109	1 31/32	78	2 1/4
585, 829	*127	1 13/32	67	2 1/32
	**70	1 7/16	30	1 31/32
COLEMAN G-55-S	100	2 1/2	75	2 7/8

*—Outer spring ** Inner spring.

FRONT END

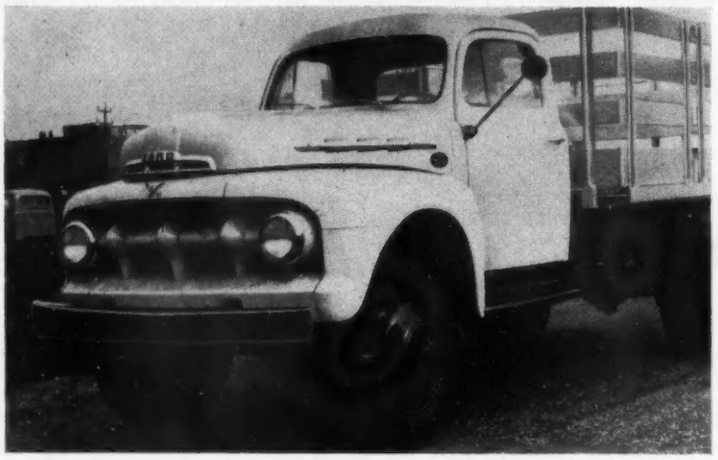
MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K.P. SLANT (In degrees)
KENWORTH				
521, 522, 523, 524, 548, 585, 825, 829, 552	1/8 ± 1/32	1	2 1/2-3	5 1/2
584, 888	1/8 ± 1/32	1	1 1/2 ± 1/4	0
COLEMAN G-55-S	0-1/16	0	3+	0

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
KENWORTH 521, 522	(S)30	(W)20	.....	*50	*50	140EP	90EP	140	140	140
523, 524, 548, 552, 584, 825, 888	(S)30	(W)20	.....	*50	*50	140	90	140	140	140
829	(S)30	(W)20	.....	140	90	140	90	140	140	140
585	(S)40, 50-70°	(W)20, below 30°	.....	140	90	140EP	140EP	140	140	140
COLEMAN G-55-S	40, above 32°	20, below 32°	.....	SAE 160	SAE 90	SAE 160	SAE 90	SAE 250	SAE 140	.....

S—Summer. W—Winter. *—Straight mineral oil. EP—Extreme pressure lube.

MARMON-HER.



Models DVL-4, LD7 and Q, R, V5, V6 Series

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
DVL-4	4½	4	a	17
LD7	5	5	2½b	22
R-3	5	5	3c	23
R-4	6	5	6½d	23
R-5, R-6, V5, V6	5	.....	.....	23
Q Series	9	.....	.....	23

a—Front axle only. b—Front axle, 3¼ pt.
c—Front axle, 2½ pt. d—Front axle, 6½ pt.
e—Front axle, 20 pt. f—Front axle, 24 pt.
x—Each of two axles.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
DVL-4	120	17	Pos
LD7 and R & V Series	100	17	Pos
Q Series	120	17	Pos

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
DVL-4	60-65	65-70	50-55
LD7, R, Q & V Series	55-60	95-105	45-50

*—Center and rear. **—Front and intermediate.
†—With $\frac{7}{16}$ in. con. rod. ‡—With $\frac{1}{2}$ in. con. rod.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.H.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
DVL-4 (1948-51)	Willys-CJ-3A	4-3⅛x4¾	50-30	9°B	.....	.017	.014	.014	AL	AN-7	14mm	.030	.020	TC	TC	118
LD7 and R Series, V5, V6	Ford 239	8-3⅛x3¾	57-2000	TC	.....	.015	A	B	CH	H-9	14mm	C	.015	2°B	.....	110
Q Series	Ford 337	8-3½x4⅛	50-2000	14°B	.....	.....	.....	.....	CH	H-9	14mm	C	.015	4°B	.....	112
MH610, MH615	Her WXLC3															
MH620, MH625	Her RXLC6															
MH630	Her RXLDH6															

A—.010-.012 cold. B—.014-.016 cold. C—.029-.032.

See page 113 for specifications provided by Hercules.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
DVL-4	116	1¾	50	2$\frac{7}{16}$
LD7 and R Series, V5, V6	76-80	1.84	37-40	2.13
Q Series	140-152	1.32	62-68	1.68

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. INCLINATION (In degrees)
DVL-4	0-⅛	¾	2	9
LD7	☆-⅛	¾	1-2	8¾
R-3, R-4	☆-⅛	0	2½	8¾
R-5, R-6, V5, V6	0-⅛	0	1½	0
Q Series	☆-☆	¾	5	8

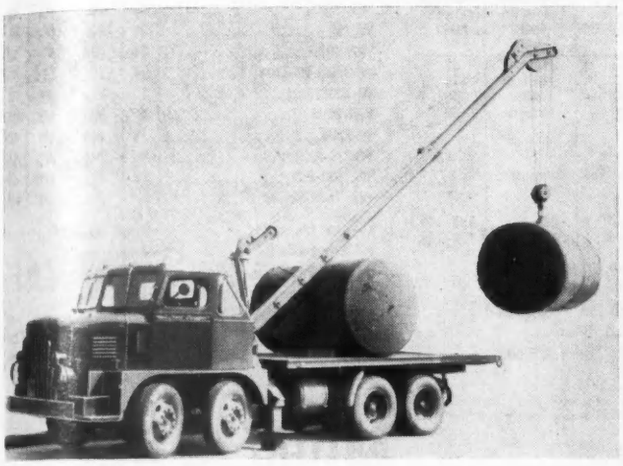
LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
DVL-4	(S)30	(W)20	10W below 10°	140	90	140A	90A	140	140	140
LD7	30 above 32°	20W 10° to 32°	10W@-10° to 10°*	140	90	90B(Hyp)	90B(Hyp)	90EP	90EP	140
R-3, R-4	30 above 32°	20W 10° to 32°	10W@-10° to 10°*	140	90	140B	90B	90EP	90EP	140
R-5, R-6	30 above 32°	20W 10° to 32°	10W@-10° to 10°*	140	90	90B	90B	140	140	140
Q Series	30 above 32°	20W 10° to 32°	10W@-10° to 10°*	140	90	140B	140B	140	140	140
V5, V6	(S)30	(W)20	10W below 10°	140	90	140B	90B	90	90	140

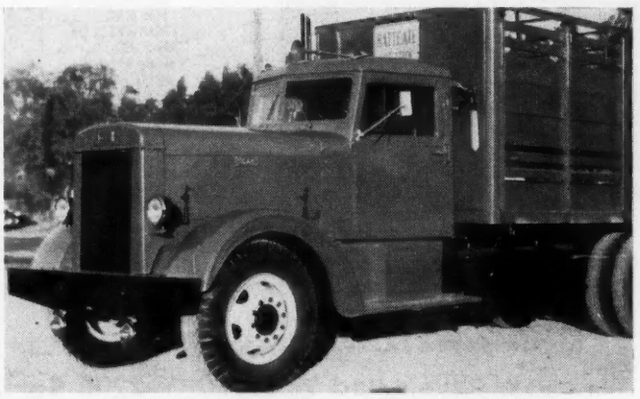
*—Below—10°, use 10% kerosene. a—Front axle only. b—Same for front axle. (S)—Summer. (W)—Winter. (EP)—Mild extreme—pressure lube (Hyp)—Hypoid gear lube.

MILFORD — PETERBILT

TRUCK DATA



Models QX, QY



Models 280, 350, 360, 370, 380, 390

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
MILFORD—QX	168	21	Pos	....
QY	120	17	Pos	....
PETERBILT—All Models	152*	19	Pos	4D

*—2 Batteries.

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
MILFORD			
QX	73-75	98-100	67-69
QY	130-134	130-134	121-125
PETERBILT			
All Models	430-450	310-330	105-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
MILFORD—QX	8	12	9ea	34
QY	10	12	17ea	56
PETERBILT—280	20	18	26	60
350	20	18	14ea	60
360, 370, 380, 390	20	18	20ea	60

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
MILFORD—QX	Wau 6MZA	6-4¼x4¾	40-1500	8°A	.....	.008	.010C	.018C	CH	7 COM	18mm	.025	.018	24°B	.....	115
QY	Wau 140GK	6-4½x5½	40-1500	5°A	.....	.....	.010C	.016C	CH	7 COM	18mm	.025	.018	TC	.....	130
PETERBILT—All Models	Cum HB600	6-4⅞x6	55	15°A	.....	.....	.025	.025	.....		Diesel					

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
MILFORD—QX	101	1 11/32	64	2 1/32
QY O./	86	1 11/32	31	2 3/4
PETERBILT—All Models I.\	55	1 7/16	26	1 29/32
	136	2 1/16	87	2 1/16

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
MILFORD—All Models	0-⅛	1	N1	8
PETERBILT—All Models except as noted	0-⅛	1	1½	8
All 1950 Models with FE 900 Axle	0-⅛	1	1½	5½

N—Negative.

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
MILFORD—All Models	40 above 50°	30@30°-50°	20W below 30°	140	90	140	90	140	90	140
PETERBILT—All Models	30 above 90°	20@60°-90°	10@10°-60°	140	90	140	90	140	90	140

S—Summer. W—Winter.

OSHKOSH

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
Her WXLCO-3	85	Note 1	53
Her RXC	85	Note 2	115
Her RXLD (H)	100	175	158
Her JXLD	95	Note 6	52
Cum HB-600, HRB600, NHB600, NHRBS600	See Cummins		
Bud 6DC-844, Bud 6MO-779, Bud 6MO-893	Note 4	245–275	150–160
Hall-Scott 400	Note 5	180–200	130–140

Note 1—Front intermed. 105; CTR & RR 70.
Note 2—Front intermed. 123; CTR & RR 105.
Note 4—½"-95-105; ⅝"-150-160.
Note 5—Large 230-250; small 30-40.
Note 6—Front intermed. 70; CTR & RR 60.

Models W212, W312, W1700, WA703, W712, WA906R and WA1600, W2200 Series

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
W-212	8	16a	18h	32
W-312	7	16a	21k	36
W-1700	10	24a	25b	46
WA-703	13	24a	15c	48
W-712	13	24a	18c	48
WA-906R	35	22d	24e	42
W-2200, W-2201	24	22d	24e	80
W-2206	16	29g	40f	75
WA-2208	35	22d	24e	66
W-2209	35	29g	40f	66
W-712-6X6	13	24g	32h	48
W-1500-OD	16	22g	32h	40
WA-1600 Series	l	22d	25c	l

a—Aux. trans. 6¾.
b—Front axle 24.
c—Also front axle.
d—Aux. trans. 17.
e—Front axle 25.
f—Front axle 36.
g—Aux. trans. 15.
h—Front axle 15.
k—Front axle 11.
l—Optional engines.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AA&M Group No.	SAE Group No.
All Gasoline Models	153	19	Pos	4H	4H
All Diesel Models	204	25	Pos	7D	7D

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
W-212	Her JXLD	6-4x4½	35-1600	5°B			.012	.010	CH	J-6	14mm	.025	.020			
W-312	Her WXLCO-3	6-4¼x4¾	26-1600	2°A			.014	.012	.016	CH	J-6	14mm	.025	.020			
W-1700	Her RXC	6-4⅝x5¼	36-1600	2°A			.010	.010	.016	CH	0 COM	7/16-18	.025	.020			
WA-703	Her RXLD	6-4⅝x5¼	36-1600	2°A			.010	.010	.016	CH	0 COM	7/16-18	.025	.020			
W-712	Her RXLDH	6-4⅝x5¼	36-1600	2°A			.010	.010	.016	CH	6 COM	18mm	.025	.020			
WA-906R	Cum HRB600	6-5⅛x6		5°B				.014	.022			Die sel					
W-2200	Bud 6MO-779	6-5⅛x6	35-1800	20°B			.015	.015	.015	CH	8 COM	18mm	.027	.018			
W-2201, WA-1600-BG	Bud 6MO-893	6-5⅛x6	30-1200	10°B			.010	.015	.015	CH	8 COM	18mm	.027	.018			
WA-1600-BD	Bud 6DC-844	6-5¼x6	35-1800	20°B			.018	.015	.015			Die sel					
WA-1600-CD, W-1500-CD	Cum HB-600	6-4⅞x6		5°B				.014	.022			Die sel					
W-2206	Hall-Scott 400	6-5¾x7	55-1600	10°B			.021	.030	CH	A	18 mm	.018	.015			
WA-2208	Cum NHB-600	6-5⅛x6		20°B			.014	.027				Die sel					
W-2209	Cum NHRBS-600	6-5⅛x6		55°B			.014	.021				Die sel					

A—Two per cyl.; exhaust No. 6, intake No. 9.

VALVE SPRINGS

ENGINE MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
Her WXLCO-3, RXC, RXLD, RXLDH	102	2 5/32	50	2 21/64
Her JXLD	58	1.594	43	1.920
Cum HB-600, HRB-600	129-143	2 1/64	83-91	2 11/64
Cum NHB-600, NHBRS-600	104-114	1 31/32	74-82	2 1/4
Bud 6MO-779, 6MO-893, 6DC-844	144-155	2 1/16	62-68	2 3/4
Hall-Scott 400 O.	243	2.000	115	2.485
Hall-Scott 400 I.	243	1.941	115	2.423

O—Outer. I—Inner.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degree)	K. P. SLANT (In degrees)
W-212, W-312, W-1700, WA-703, W-712, W-712BX6, W-1500	0-⅛	1°	1°	3°
WA-906R, WA-1600, W-2200, W-2201, W-2206, WA-2208, W-2209	0-⅛	½°	1°	3°

LUBRICATION

ENGINE MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
W-212, W-312	40 above 40°	30@10° to 40°	20 below 10°	140A	90A	140Hyp	90Hyp	140A	140A	C
W-1700, WA-703, W-712, W-712-6X6	40 above 40°	30@10° to 40°	20 below 10°	140A	90A	140A	90A	140A	140A	C
WA-906-R, WA-1600-CD, WA-2208, W-2209, W-1500-CD	30 above 80°	20@20° to 80°	10 below 20°	140A	90A	140A	90A	140A	140A	C
W-2200, W-2201, WA-1600-BG, WA-1600-BD	40 above 90°	30@32° to 90°	20 below 32°	140A	90A	140A	90A	140A	140A	C
W-2206	30 above 32°	20 below 32°		140A	90A	140A	90A	140A	140A	C

A—Straight mineral oil gear lubricant; same for front axle, aux. trans & transfer case.
C—Light weight chassis lubricant.
Hyp—Hypoid gear lubricant front and rear axles, W-212 & W-312 only.

REO

Series F-20, F-21, F-22, F-22R, F-22S, F-23, F-226, F-236

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
F-20	8	8	15	20
F-21	8	8	15	21
F-22	8	11	20	22
F-22R	8	11	23	22
F-22S	8	11	31	22
F-23	9	20	31	25
F-226	9	11	19ea	22
F-236	9	20	14ea	25

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AABM Group No.
F-20, F-21, F-22, F-22R, F-22S				
F-226	136	17	Pos	3
F-23, F-236	153	19	Pos	4

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
F-20, F-21, F-22, F-22R, F-22S, F-226	100-105	85-90	65-70
F-23, F-236	130-140	100-110	100-110

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
F-20, F-21	Own OA255	6-3⅜x4½	40-50	5°B	.....	.019	.015	.015	CH	J-6	14mm	.025	.022	8°B	B	120
F-22	Own OA292	6-3⅞x4½	40-50	5°B	.....	.019	.015	.015	CH	J-6	14mm	.025	.022	4°B	B	120
F-22R, F-22S, F-226	Own OA331	6-4⅛x4½	40-50	5°B	.....	.019	.015	.015	CH	J-6	14mm	.025	.022	2°B	B	120
F-23, F-236	Cont T-6-427	6-4 1/16x4⅜	40-60	16°B	.....	.022	.017	.017	CH	8COM	18mm	.030	A	10°B	.....	110

A—.018 to .024 B—Mark on vibration damper front end of crankshaft lines up with pointer on timing gear cover.

VALVE SPRINGS

MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
F-20, F-21, F-22, F-22R, F-22S, F-226	154	1 11/16	62	1 11/16
F-23, F-236	129	1½	56	1⅝

FRONT END

MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
F-20, F-21, F-22, F-22R	0-1/16	1	2	....
F-22S, F-23, F-226, F-236	0-⅛	1	1½	....

LUBRICATION

MODEL	ENGINE			TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
	Viscosity and Temperature Range			Summer	Winter	Summer	Winter	Summer	Winter	
F-20, F-21, F-22, F-22R, F-22S, F-226	30 above 32°	20W above 10°	10W below 10°	HDEO	HDEO	140	90	90	90	90
F-23, F-236	30 above 50°	20 above 32°	10 below 20°	HDEO	HDEO	140	90	90	90	90

HDEO—Heavy Duty Gear Lubricant.

STERLING

Series DD, HBS, HC, HCS, HD, HDS, HWS

VALVE SPRINGS, TENSIONS See pages 112-115.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K.P. SLANT (In degrees)
HA1101	1/4 ± 1/8	1	Var	8
TB1301T, TB1301TD, TB1501T, TB1501TD, TA1501TD, TA1511TD, TA1601D, TA1611D, HA1401, HA1601, HA1701, HB2001, HB2001D, HA1605, HA1805, HB2205, TA2105D, TA2115D, HA1502, HA1802, HA1803, HA1813, HB2002, HB2002D, HB2003, HB2003D, HB2013, HB2013D, HB2516, HB2516D, CC10	1/4 ± 1/8	1	Var	5 1/2
HB2755, HB2755D, HA2605D, HB2053D, HB2756, HB2756D, HB3006D, HB3506D, CC20	1/4 ± 1/8	1	Var	8
HB4506D	1/4 ± 1/8	1	Var	0
SF6506D, SF7506D	1/4 ± 1/8	1	Var	0
HB1204, HA1304, HB1604, HB1904, HB1904D, HB2254, HB2254D	1/4 ± 1/8	0	Var	0

b—Capacities given include lubricant in standard auxiliary transmission.

c—Capacities given include lubricant in standard transfer case.

d—Capacities given are for both axles of tandem axle unit.

f—Rear axle capacities for chain drive chassis are capacities of standard jackshaft unit.

g—Rear axle capacities for Multi-Drive vehicles include lubricant furnished in front driving axle.

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
TB1301T	10	24	30	56
TB1301TD	20	24	30	54
TB1501T	10	24	38	56
TB1501TD	28	24	38	54
TA1501TD	28	30b	38	54
TA1511TD	28	30b	38	54
TA1601D, TA1611D	28	34b	38	54
HA1101	8	16	23	33
HA1401	8	16	38	33
HA1601, HA1701	10	24	38	39
HB2001	10	37b	34	56
HB2001D	20	34b	34	54
HA1605	8	16	65d	33
HA1805	8	29b	54d	33
HB2205	10	37b	54d	56
HB2755	10	37b	64d	56
HB2755D	20	34b	64d	54
HA2605D	28	34b	64d	54
TA2105D	28	34b	34d	54
TA2115D	28	34b	34d	54
HA1502	8	29b	12f	33
HA1802, HA1803, HA1813	10	29b	12f	39
HB2002	10	29b	20f	56
HB2002D	20	34b	20f	54
HB2003	10	29b	20f	56
HB2003D	20	34b	20f	54
HB2013	10	29b	20f	56
HB2013D, HB2503D	20	34b	20f	54
HB2516, HB2756	10	37b	20 3/4f	56
HB2516D, HB2756D	20	34b	20 3/4f	54
HB3506D, HB3006D	20	34b	25 1/4f	54
HB4506D	28	38b	38 1/2f	54
SF6506D, SF7506D	30	38b	51f	80
HB1204	8	20c	33g	33
HA1304	10	28c	33g	39
HB1604	10	29c	38g	56
HB1904	18	22c	32g	69
HB1904D	20	22c	32g	54
HB2254	18	22c	40g	73
HB2254D	28	22c	40g	54
CC10	8	23b	28d	33
CC20	10	36b	64d	49

TUNE UP

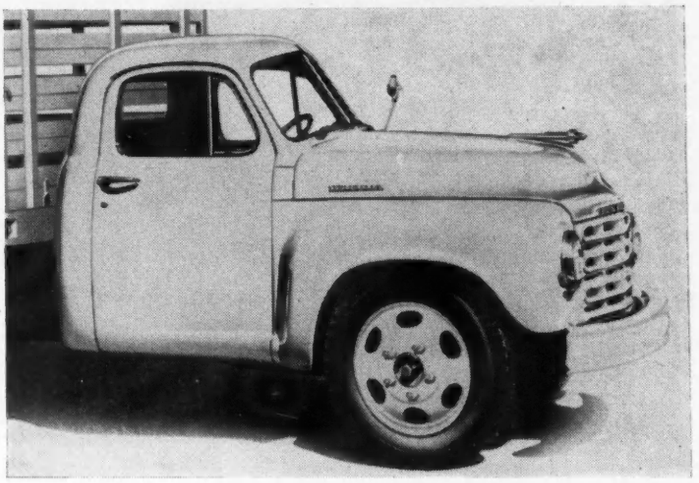
MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): (Cold) Intake	(Cold) Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
HA1101, HA1401, HA1605, HA1805, HA1502, HB1204, CC10	Wau 6MZA	6-4 1/4x4 3/4	40-3000	8°B	3B	.008	.008-.010	.018-.020	AL	BT4	18mm	.025	.018	Var		110
HA1601, HA1701, HA1802, HA1803, HA1813, HA1304	Wau 6SRKR	6-4 5/8x5 1/2	40-2250	8°A	3A	.004	.008-.010	.024-.026	AL	TT8	7/8	.025	.018	Var		90
HB2205, HB2516, HB1604, CC20	Wau 140GK	6-4 1/2x5 1/2	40-2250	15°B	5B	.010	.012-.014	.018-.020	AL	AT4	18mm	.025	.018	Var		
TB1301T, HB2001, HB2755, HB2002, HB2003, HB2013, HB2756	Wau 140GKB	6-4 1/2x5 1/2	40-2600	15°B	5B	.010	.012-.014	.024-.026	AL	AT4	18mm	.025	.018	Var		
TB1501T	Wau 140GZB	6-4 5/8x5 1/2	40-2600	15°B	5B	.010	.012-.014	.024-.026	AL	AT4	18mm	.025	.018	Var		
HB1904	Wau 145GK	6-5 1/4x6	40-2000	15°B	6B	.010	.012-.014	.023-.025	AL	AT4	18mm	.025	.018	Var		
HB2254	Wau 145GKB	6-5 1/4x6	40-2100	15°B	6B	.010	.012-.014	.023-.025	AL	AT4	18mm	.025	.018	Var		
TB1301TD, HB2001D, HB2755D, HB2002D, HB2003D, HB2013D, HB2503D, HB2516D, HB2756D, HB3006D, HB3506D, HB1904D	Cum HB600, HBD600	6-4 7/8x6	30-40-1800	5°B			.014	.022		Diesel						525
TB1501TD, TA1501TD, TA1511TD, TA1601D, TA1611D, HA2605D, TA2105D, TA2115D, HB4506D, HB2254D	Cum NHB600, NHBD600	6-5 1/2x6	40-2100	20°B			.014	.027		Diesel						525
SF6506D	Buda 8DA1125	8-5 1/4x6 1/2	30-1200	20°B			.015	.015		Diesel						
SF7506D	Buda 8DAS1125	8-5 1/4x6 1/2	30-1200	45°B		.010	.015	.015		Diesel						

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
TB1301T	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140 Hyp(1)	90 Hyp	140EP	140EP	140
TB1301TD	20 @ 20-80F	10 Below 10F		140	90	140 Hyp(1)	90 Hyp	140EP	140EP	140
TB1501T	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140 Hyp(1)	90 Hyp	140EP	140EP	140
TB1501TD, TA1501TD, TA1511TD, TA1601D, TA1611D	20 @ 20-80F	10 Below 10F		140	90	140 Hyp(1)	90 Hyp	140EP	140EP	140
HA1101, HA1401, HA1601, HA1701, HB2001	40 @ 50-70F	30 @ 30-50F	30W @ 10-30F	140	90	140	90	140EP	140EP	140
HB2001D	20 @ 20-80F	10 Below 10F		140	90	140	90	140EP	140EP	140
HA1605, HA1805, HB2205, HB2755	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140	90	140EP	140EP	140
HB2755D, HA2605D, TA2105D, TA2115D	20 @ 20-80F	10 Below 10F		140	90	140	90	140EP	140EP	140
HA1502, HA1802, HA1803, HA1813, HB2003, HB2013	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140 (2)	90	140EP	140EP	140
HB2002D, HB2003D, HB2013D, HB2503D	20 @ 20-80F	10 Below 10F		140	90	140 (2)	90	140EP	140EP	140
HB2516, HB2756	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140 (2, 3)	90	140EP	140EP	140
HB2756D, HB2756, HB3006D, HB3506D, HB4506D	20 @ 20-80F	10 Below 10F		140	90	140 (2, 3)	90	140EP	140EP	140
SF6506D, SF7506D	40 @ Above 90F	30 @ 32-90F	20 @ 10-32F	140	90	140 (2, 3)	90	140EP	140EP	140
HB1204, HA1304, HB1604, HB1904, HB2254	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140 (4)	90	140EP	140EP	140
HB1904D, HB2254D	20 @ 20-80F	10 Below 10F		140	90	140 (4)	90	140EP	140EP	140
CC10, CC20	40 @ 50-70F	30 @ 30-50F	20W @ 10-30F	140	90	140	90	140EP	140EP	140

NOTES: (1) Hyp—Hypoid. (2) Rear axle recommendations for chain drive chassis refer to jackshaft unit lubrication.
(3) Lubricant for drive end of jackshaft units of dual chain drive chassis is SAE 50 Summer and Winter. (4) Covers front driving axle of Multi-Drive chassis a...

STUDEBAKER



Models 2R5, 2R6, 2R10, 2R11, 2R14, 2R15, 2R16A, 2R16B, 2R17A, 2R17B

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
2R5	5	2½a	3	10½d
2R6	6	2½a	3	15½e
2R10	5	2½a	3	10½d
2R11	6	2½a	3	15½e
2R14	6	6	6½	15½e
2R15	5	6	6½	10½d
2R16A, 2R16B	6	6f	7b	15½e
2R17A, 2R17B	6	6¾	18½c	15½ e

a—With overdrive—3 pt., with 4-speed trans.—6 pt.
b—With H.D. single speed—18½ pt., with 2-speed—14 pt.
c—With 2-speed—14 pt.
d—13½ qt. optional.
e—16 qt. optional.
f—With H.D. trans.—6¾ pt.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
All Models—Std.	100	15	Pos	1M	1
All Models—Opt.	153	19	Pos	4H	4

TENSIONS

ENGINE MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
2R5, 2R10, 2R15	46–50	88–93	28–32
2R6, 2R11, 2R14, 2R16A, 2R16B, 2R17A, 2R17B	80–85	88–93	52–54

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
2R5, 2R10	Own 1R	6–3x4	40–2000	15°B	5B	.020	.016C	.016C	CH	J7	14mm	.025	.020	2°B	¾B	120
2R6, 2R11, 2R14	Own 6R	6–3 1/16x4¾	40–2000	15°B	5½B	.020	.016C	.016C	CH	J7	14mm	.025	.022	2°B	¾B	120
2R15	Own 2R	6–3x4	40–2000	15°B	5B	.020	.016C	.016C	CH	J7	14mm	.025	.020	2°B	¾B	120
2R16A, 2R16B, 2R17A, 2R17B	Own 4R	6–3 1/16x4¾	40–2000	15°B	5½B	.020	.016C	.016C	CH	J7	14mm	.025	.022	2°B	¾B	120

C—Cold.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
2R5, 2R10, 2R15	93–103	1 1/16	37–41	1¼
2R6, 2R11, 2R14, 2R16A, 2R16B, 2R17A, 2R17B (A)	125–135	1¼	54–60	2 3/32

A—Exhaust Rotovalve Spring: Free length 2 3/32". Length under load 1¼". 120—130lb.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degree)	CASTER (In degree)	K. P. SLANT (In degrees)
2R5, 2R6, 2R10, 2R11	1/16–⅛	1	1¼–1¾	7½
2R14, 2R15	1/16–⅛	1	1¾–2¼	8
2R16A, 2R16B, 2R17A, 2R17B	1/16–⅛	1	2–2½	8

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
2R5, 2R6	30 above 32°	20 @ 10° to 32°	10 below 10°	90g	90g	90Hyp	90Hyp	140	140	K
2R10, 2R11	30 above 32°	20 @ 10° to 32°	10 below 10°	90g	90g	140	90h	140	140	K
2R14, 2R15	30 above 32°	20 @ 10° to 32°	10 below 10°	140	90h	140	90h	140	140	K
2R16A, 2R16B (L)	30 above 32°	20 @ 10° to 32°	10 below 10°	140	90h	140	90h	140	140	K
2R17A (L), 2R17B (M)	30 above 32°	20 @ 10° to 32°	10 below 10°	140	90h	140Hyp	90Hyp	140	140	K

g—If equipped with overdrive use 90 mineral gear lube or 40 engine oil. h—Below 32° only. Hyp—Truck type hypoid lube.
K—Chassis lube—low pressure gun. L—H.D. single speed (Opt.) and 2-speed rear axle (Opt.) 90 hyp. below 32° and 140 hyp. above 32°.
M—2-speed rear axle (optional) 90 hyp. below 32° and 140 hyp. above 32°.

WALTER

Models FGB, FGR, FC, FCK, FKM, FN, FZM

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
FGB, FGR (1943-51)	18	32	8	32
FC, FCK (1936-51)	10	25	7	42
FKM (1936-51)	10	17	5	32
FM-FZM (1936-51)	8	17	6	32

BATTERY

MODEL	Amp Hr Capacity	Number of Plates	Terminal Grounded	AABM Group No.
FN, FZM (1943-51)	160	17	Pos	3T
FC, FCK, FKM (12 Volts), (1943-51)	120	15	Pos	1B
FGB, FGR (12 Volts), (1943-51)	160	17	Pos	4B

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
FN, FZM	73- 75	96-100	67- 69
FKM, FCK, FC, FCR	73- 75	129-133	121-125
FGB, FGR	130-134	242-250	73- 75

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
FN, FZM (1943-51)	Wau M2R	6-4¼x4¾	40-1500	6°A	3A	.004	.008-10C	.014-16C	Opt	.....	18mm	.025	.018	Var	.....	90
FKM, FCK, FC, FCR (1943-51)	Wau SRKR	6-4⅝x5½	40-1500	8°A	3A	.004	.008-10C	.014-16C	Opt	.....	⅞	.025	.018	Var	.....	90
FGB, FGR (1943-51)	Wau 145GK	6-5¼x6	40-1500	5°A	2A	.006	.009-11C	.024-26C	Opt	.....	18mm	.025	.018	Var	.....	130

C—Cold.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
FN, FZM	101	1⅜	64	2⅛
FKM, FC, FCK, FCR	94	2⅛	59	2⅛
FGB, FGR O.	158	2⅝	67	2⅛
FGB, FGR I.	100	2⅛	42	2⅛

I—Inner. O—Outer.

FRONT END

MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
FN, FKM, FZM, FCK, FC, FGB, FGR (1936-51)	N-⅛	1½	5	2

N—Negative.

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
All models (1936-51)	(S) 50	(W) 30	.....	250	140	250	140	140	140	90

WARD LaFRANCE

Series D-1, D-1C, D-2K, D-2Z, D-3, D-3S, D-5, D5N, D5R, D5S

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts†
	Engine Quarts	Transmission Pints	Rear Axle Pints	
D-1	8a	16c	31e	36
D-1C	8a	16	38	38
D-2K, D-2Z	10a	24c	38ef	61
D-3, D-3S	14b	24c	38ef	60
D-5	20	24d	38e	56
D-5N, D-5R, D-5S	28	24d	38e	56

†—Add 2 qts. for heater.
a—Add 1 qt. for filter.
b—Add 4 qts. for filter.
c—Models with tandem axles, aux. trans.—13 pts.
d—Models with tandem axles, aux. trans.—12 pts.
e—Other models ending in T2, T4, T7, T8, use 14, 17, 32, and 26 pts. in each axle respectively.
f—Other models ending in F, G, and H, use 38, 34 and 38 pts. in each axle respectively.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
All Gasoline Models	152*	19	Pos
All Diesel Models	152**	19	Pos

*—2 Batteries. **—4 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
All Models	See Engines, Pages 112-115		

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
D1, D1C	Con T-6427	6-4¼x4⅜	40-60	16°B	.....	.022	.017	.017	CH	.....	.....	.025				
D2K, D2	Wau 140-GK	6-4⅛x5½	40-1500	5°A	.....	.010	.010	.0135	CH	.....	.....	.025	.018	TC	.....	130
D2Z	Wau 140GZ	6-4⅛x5½	40-1500	5°A	.....	.010	.010	.0135	CH	.....	.....	.025	.018	TC	.....	130
D3	Con R-6572	6-4⅝x5¾	50-60	12°B	.....	.0245	.020	.020	CH	.....	.....	.025	.020	5B	.....	120
D3S	Con R-6602	6-4⅝x5¾	50-60	12°B	.....	.0245	.020	.020	CH	.....	.....	.025	.020	5B	.....	120
D5	Cum HB600	6-4½x6	30-50	5°B	.....	.....	.014	.022	.....	.....	Diesel				.....	.....
D5N	Cum NHB-600	6-5½x6	30-50	20°B	.....	.....	.014	.027	.....	.....	Diesel				.....	.....
D5R	Cum HRB-600	6-5½x6	.....	5°B	.....	.....	.014	.022	.....	.....	Diesel				.....	.....
D5S	Cum HBS-600	6-4½x6	.....	77°B	.....	.....	.016	.026	.....	.....	Diesel				.....	.....

VALVE SPRINGS

ENGINE MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
Con T-6427 I.	57	1.458	12.8	1⅜
O.	129		71	
Con R6572, R6602 I.	85	1⅝	35	2¼
O.	165		70	
Wau 140GK I.	55	1	26	2
O.	88	2	31	2
Wau 140GZ I.	85	1	26	2
O.	88	2	31	2
Cum HB600, HRB-600, HBS-600 I.	129	2	83	2
O.	143		91	
Cum NHB600 I.	104	1	74	2¼
O.	114		82	

I—Inner. O—Outer.

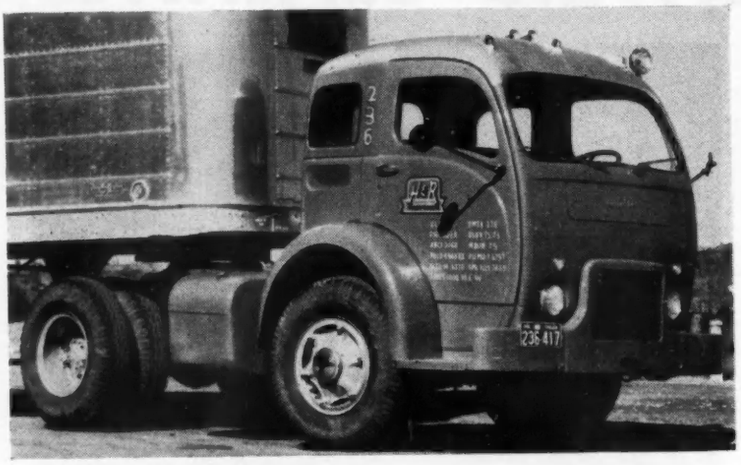
FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
All Models	1/16—1/8	¾-1½	½-1½	8

LUBRICATION

MODEL	ENGINE			TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
	Viscosity and Temperature Range			Summer	Winter	Summer	Winter	Summer	Winter	
All Gasoline Models	(S) 40	(W) 20 or 10	.....	140	90	140	90	140	140	.....
All Diesel Models	30 at 80°-100°	20 at 20°-80°	10 below 20°	140	90	140	90	140	140	.....

WHITE



Series WC16, WC20, WC22, WC26, WC28, WC32 & Models 3016, 3020, 3022, 3022PLT, 3026

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
WC16-16B	12	8	22	28
WC16T	12	13	22	28
18B	12	13	11	28
WC20, WC20B, WC20T	12	13	11	28
WC22, WC22T, 26, 26T	12	16	22	28
WC-22PLT	12	16	8	28
WC28, WC28T, WC32	16	24	22	28
WC2264	12	16	22 EA	28
WC2864	16	24	14 EA	28
WC3264	16	24	26 EA	28
3016	10	8	22	28
3016T	10	13	22	28
3018	10	11	11	28
3018T, 3020, 3020T	10	13	11	28
3022, 3022T, 3026	10	16	22	28
3022PLT	10	16	8	28

BATTERY

MODEL	Amp Hr Capacity	Number of Plates	Terminal Grounded	SAE Group No
WC16, WC16T, WC20, WC20T, WC22, WC22T, WC22PLT, WC26, WC26T, WC2264, 3016, 3016T, 3020, 3020T, 3022, 3022T, 3022PLT, 3026	119	15	Pos	2H
WC18B, WC20B, WC16B	136	17	Pos	3H
WC28, WC32, WC2864, WC3264	119*	15	Pos	2H
WC28T	136*	17	Pos	3H

*—2 Batteries.

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
116A, 120A, 130A, 140A	85-90	70-75	40-48
150A	85-90	70-75	48-52
260A, 280A	105-110	70-75	70-75

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
WC16, WC16B, 3016	Own 116A	6-3¼x4½	35 Max	15°B	.....	0	0	0	Ch	J8	14mm	.025	D	7°B	.....	.....
WC16T, WC18, 3016T	Own 120A	6-3⅛x4½	35 Max	15°B	.....	0	0	0	Ch	J8	14mm	.025	D	6°B	.....	.....
WC20, WC20B, 3020	Own 130A	6-4x4½	35 Max	15°B	.....	0	0	0	Ch	J8	14mm	.025	D	6°B	.....	.....
WC20T, WC22, 3020T, 3022	Own 140A	6-3⅞x5⅛	35 Max	15°B	.....	0	0	0	Ch	J8	14mm	.025	D	7°B	.....	.....
WC22T, WC26, WC26T, 3022T, 3026, WC2264, WC22PLT, 3022PLT	Own 150A	6-4x5⅛	35 Max	15°B	.....	0	0	0	Ch	J8	14mm	.025	E	3°B	.....	.....
WC28	Own 260A	6-4½x5	45 Max	15°B	.....	0	0	0	Ch	8 COM	18mm	.025	E	9°B	.....	.....
WC28T, WC32, WC2864, WC3264	Own 280A	6-4½x5	45 Max	15°B	.....	0	0	0	Ch	8 COM	18mm	.025	E	9°B	.....	.....

D—.017 to .018. E—.018 to .024.

VALVE SPRINGS

ENGINE MODEL	VALVE SPRINGS: Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
116A, 120A, 130A, 140A, 150A	99-107	2 1/32	Free	3.0
260A, 280A I.	74-81	1.827	Free	2 5/64
260A, 280A O.	109-117	1.827	Free	2 1/16

O—Outer. I—Inner.

FRONT END

MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
WC16, WC16T, WC18B, WC16B	1/8	1°	2°-50'	8°
WC22, WC22T, WC26, WC26T, WC28, WC28T, WC20, WC20B, WC20T, WC22PLT, WC32, WC2264, WC2864, WC3264	1/8	1°	2°-50'	8°30'
3016, 3020, 3016T, 3020T, 3022, 3022T, 3022PLT, 3026	1/8	1°	2°-30'	8°

LUBRICATION

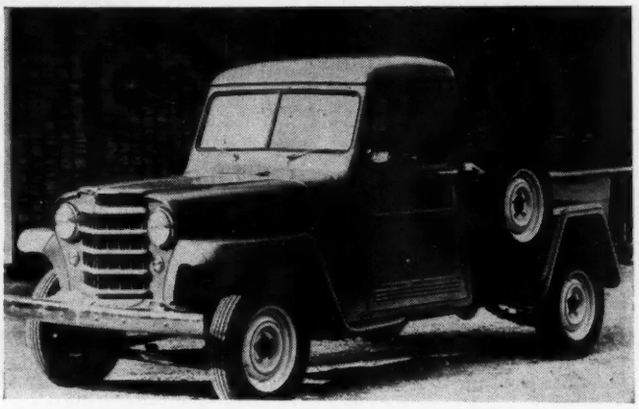
MODEL	ENGINE: Viscosity and Temperature Range	TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
WC14, WC16, WC16B, WC16T, 3016, 3016T	(S)30 (W)20	90	90	140EP	90EP	ST	ST	140
All other Models	(S)30 (W)20	90	90	140EP	90EP	ST	ST	140

Note: EP—Extreme pressure lubricant. (S)—Summer. (W)—Winter. ST—Steering gear lubricant.

CROSLEY — WILLYS

TRUCK DATA

Pick Up, Panel Delivery



Models CJ-3A, 4WD, 473 Series

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
WILLYS				
All Models	100	15	Neg	1M
CROSLEY				
All Models	70	11	Pos	1

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
WILLYS			
All Models	60-65	65-70	35-40
CROSLEY			
All Models	None	12.5-15	16.5-23

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity Quarts
WILLYS				
CJ-3A	4	3*	2¾**	11
4WD	4	3*	3**	11
473 Series	4	1¼	2	11
CROSLEY				
All Models	2	1	1½	4

*—Transfer case, 3½ pts.
**—Front axle, 2½ pts.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
WILLYS																
CJ-3A	Own L	4-3⅛x4½	35-30	9°B	2.4B	.020	.016C	.016C	AL*	AN-7*	14mm	.030	.020	5°B	1.3B	115
4WD, 473 Series	Own F	4-3⅛x4⅝	35-30	9°B	2.4B	.028	.018C	.012C	AL*	AN-7*	14mm	.030	.020	TC	TC	135
CROSLEY																
All Models	Own	4-2½x2¼	40-30	5°B	1	.004-6	.004-6C	.007-9C	CH	J-8	14mm	.025	.020	12B	3B	130

*—OR Champion J-9. C—Cold.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
WILLYS				
CJ-3A Intake, all exhaust	120	1¾	53	2 5/16
4WD, 473 Series Intake	160	1¾	73	1 13/16
All Models—Exhaust	120	1¾	53	2 5/16
CROSLEY				
Intake	91 max.	1 1/16	44.8 max.	1 1/16

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
WILLYS				
CJ-3A, 4WD	1/4 - 3/8	1½	3	7½
473 Panel	1/8 - 1/8	1	1	5
473HT	1/4 - 3/8	1	3	7½
CROSLEY				
All Models	1/8	2	7½	6½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
WILLYS										
All Models	30 above 90°	20@32° to 90°	20W@10° to 32°*	90A	80A	90B	90B	140	140	C
CROSLEY										
All Models	30 above 65°	20@10° to 65°	10 @ 10° to −10°	90	90	90	90	90	90	.....

*—10W @ −10° to 10°, 10% kerosene below −10°
A—Same for transfer case or overdrive.
B—Same for front axles on 4WD models.
C—Front axle shaft U-joint: fibre grease or NLGI, #0 winter, NLGI #1 summer. Propeller shaft U-joint: NLGI #0 winter, NGLI #1 summer. Rear prop. shaft on 4WD lubricated for life.

ACF-BRILL

Models C-27, C-31, K-41A, C-44, C-48

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
C-44 (HS 180-1, HS 190-2), K-41A	28	20	26	80
C-27, C-31	9	8	13	32
C-44*, C-48	28	14	26	80

*—Torque converter.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AABM Group No.
All Models	160	17	Pos.	4B

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
HS 180-1, 190-2	S30–40 L230–250	180–200	130–140
IHC RD372, RD406, RD450	100–110	100–110	75–85

S—Small. L—Long.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
C-44	HS 180-1	6-5x6	60-2200	7°B	1"	.022	.022C	.022C	CH	6 COM	18mm	.020	.022	12B	.....	116
C-44, C-48, K41A	HS-190-2	6-5¼x6	60-2200	7°B	1"	.022	.022C	.022C	CH	6 COM	18mm	.020	.022	12B	.....	114
C-27	IHC RD372	6-4⅜x4½	40-45 @ 1500	8°B	.....	.023	.020	.020	CH	J-6	14mm	.030	.022	5B	.....	116
C-31	IHC RD406	6-4⅜x4½	40-45 @ 1500	8°B	.....	.023	.020	.020	CH	J-6	14mm	.030	.022	5B	.....	120
C-31	IHC RD450	6-4⅜x5	40-45 @ 1500	8°B	.....	.023	.020	.020	CH	J-6	14mm	.030	.022	5B	.....	122

HS—Hall-Scott. *—100-105. C—Cold.

VALVE SPRINGS

MODEL		VALVE SPRINGS: Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
C-44 (HS 180-1)	O.	243	2.000	115	2 485
C-44, C-48, K41A (HS 190-2)	I.	243	1.941	115	2 423
C-27 (IHC RD372)	O.	137	1.706	.....	2⅜
C-31 (IHC RD406, RD450)	I.	855	1.503	.....	2⅛

O—Outer. I—Inner.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degree)	K. P. SLANT (In degrees)
C-44, C-48	⅛	1	2¼	8½
C-27, C-31	0–¼	1	1½	8½
K-41A	⅛	1	1½	8½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
C-44 (HS 180-1, 190-2), C-48, K-41A	a 32° to 90°	20 @ 32° to −10°	.....	50c	50c	140	90	90	90	140
C-27, C-31	b 32° to 90°	20 @ 32° to 10°	10 @ 10° to −10°	50	50	140	90	90	90	140

a—SAE 30 light service, SAE 40 heavy service.
b—SAE 40 light service, SAE 50 heavy service.
c—For torque converters, use approved fluid.

AEROCOACH

Models 373-MC, MH, MD

BEAVER

Models B35PT, B31PT, B27PT

BATTERY

MODEL	Amp Hr Capacity	Number of Plates	Terminal Grounded	AABM Group No
AEROCOACH				
373-MC, 373-MH	165	21	Pos	4B
373-MD*	165	21	Pos	4B
BEAVER				
All Models	158	17	Pos	4B

*—2 Batteries.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
AEROCOACH			
373-MC	110		
373-MD	{⅝"–175 1"–280	175	158
BEAVER			
IHC 450, 406, 372	110	105	80
IHC 269	80	105	80

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
AEROCOACH				
373-MC	12	20	12	88
373-MH	11	20	12	88
373-MD	14	20	12	88
BEAVER				
IHC 450	12	6	23	60
IHC 406, 372	12	6	20	60
IHC 269	8	6	20	50

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Intake Valve Opens B-Before A-After: Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
AEROCOACH																
373-MC	Con U6501	6-4½x5¼	40–50	17°B	.....	.022	.020	.024	AC	82	18mm	.025	.021	5°B	.....	120
373-MH	IHC RD450	6-4½x5	40–1500	8°B	.....	.023	.018	.020	AC	43	14mm	.030	.021	TC	.....	122
372-MD	Her DRXC	6-4½x5¼	30–1200	12°B	.....	.016	.016	.016	.....	.....	.....	.....	.....	.....	.....	.....
BEAVER																
B35PT	IHC 450	6-4½x5	40–2600	8°	.....	.023	F	F	AC	43	14mm	E	D	TC	.....	122
B31PT	IHC 372	6-4½x4¼	40–2700	8°	.....	.023	F	F	AC	43	14mm	E	D	TC	.....	122
B31PT	IHC 401	6-4½x4½	40–2700	8°	.....	.023	F	F	AC	43	14mm	E	D	TC	.....	122
B27PT	IHC 269	6-3⅞x4½	40–2800	8°	.....	.023	F	F	AC	43	14mm	E	D	3°B	.....	115

F—.018–.020. E—.028–.032. D—.018–.024.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
AEROCOACH				
All Models		See engi	nes page	112–115
BEAVER				
B35PT, 931PT	222	.....	92	.....
B27PT	116	.....	69	.....

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
AEROCOACH				
373-MC, 373-MH, 373-MD	⅛	1°	1½°	8°
BEAVER				
All Models	⅛	1°	0 to 2°	5½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range	TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
AEROCOACH								
373-MC	(S)40 (W)30	50	50	160	90	250	160	140
373-MH	(S)50 (W)40	50	50	160	90	250	160	140
373-MD	Follow Visco meter	50	50	160	90	250	160	140
BEAVER								
B35PT, 931PT	(S)50 (W)40	140	90	140GP	90GP	140	90	90
B27PT	S(40) (W)30	140	90	140GP	90GP	140	90	90

(S)—Summer. (W)—Winter. Hyp—Hypoid gear oil. GP—General purpose gear lubricant.

BECK

Silverliner, Beck 29, Mainliner

CUB

Models 18-S, 21-T

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded
BECK (All Models)	110*	19	Pos
CUB Coach 18-S, 21-T	135	17	Pos

*—2 batteries.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
BECK	See engine	pages 112-	115
CUB Coach 18-S, 21-T	55-60	95-105	45-50

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
BECK Silverliner	28	24	31	56
29	12	16	23	35
Mainliner	10	16	23	35
CUB Coach 18-S, 21-T	5	5	3	22

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Intake Valve Opens B-Before A-After: Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	OPERATING TAPPET CLEARANCE (Hot unless noted): Exhaust	SPARK PLUG: Make	SPARK PLUG: Type	SPARK PLUG: Size	SPARK PLUG: Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
BECK Silverliner	Cum NHB600	-														
29	Cum JBS600	-	(See engi	nes—Pages												
Mainliner	IHC-RD450	-														
CUB Coach 18-S, 21-T	Ford 7HT	6-3.3x4.4	50-2000	11°B	.....	.015	.009-11c	.013-15c	CH	H-9	14mm	A	.025	TC	.....	110

A—.025-.028. C—Cold.

VALVE SPRINGS

MODEL	VALVE SPRINGS: Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
BECK (All models)	See	engine	pages	112-115
CUB Coach 18S-, 21-T	116	1.75	50	2.109

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
BECK (All models)	1/8-1/16	1°	3°	6°
CUB Coach 18-S, 21-T	0-1/8	1/4 to 1°	1-3 1/2°	7 1/4-8°

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Ranges			TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
BECK (All Models)	(S) 30	20@10° to 32°	10 below 10°	140	90	140	90	140	140	.....
CUB Coach 18-S, 21-T	30 above 32°	20W@10° to 32°	10W@-10° to 10°	140	90	140EP	90EP	90EP	90EP	140

(S)—Summer. EP—Extreme pressure lube.

FITZJOHN

BUS DATA

FLXIBLE

Models 310, FTG, FTD, 510, 635

Models 218B1-51, 218DWXI-51

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing on pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
FITZJOHN				
310, FTG, 510, 635	150	19	P	4D
FTG	205*	27	P	8D
FLXIBLE—All Models	155	27	P	8D†

†—AABM Group No.
*—Two batteries.

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
FITZJOHN—JXLD.	75	A	56
WXLD	60	B	53
DWXLD	158	175	225
140GK	175	133	100
FLXIBLE—Buick	65-70	100-110	60-65
Hercules	158	158	175

A—Front & intermediate 70 = center & rear 60.
B—Front & intermediate 105 = center & rear 70.

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
FITZJOHN				
310 (JXLD)	9	11	20	36
FTG (JXLD)	9	16	11	48
FTG (WXLD)	10	16	11	51
FTD (DWXLD)	14	16	11	56
510 (JXLD)	8	11	15	28
635 (140GK)	15	24	23	56
FLXIBLE—218B1-51	16	12	23	52*
218DWX1-51	12	12	23	62*

*—Including two heaters.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Cold Intake	Cold Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
FITZJOHN—310, FTG, 510	Her JXLD	6-4x4½	25 @ 1800	5°B	Var	.010	.012	.014	AL	TT4	⅞"	.025	.018	TC	.....	.....
FTG	Her WXLD	6-4½x4¾	25 @ 1800	2°A	Var	.010	.012	.016	CH	J6	14mm	.025	.018	TC	.....	.....
FTG	Her DWXLD	6-4½x5	40 @ 1600	17½B	Var	.010	.008	.010	.....	.....	Diesel	.....	.....	.....	.....	.....
635	Wau 140GK	6-4½x5½	40 @ 2600	.....	.....	.....	.012	.024	CH	H9	14mm	.025	.018	TC	.....	.....
FLXIBLE—218B1-51	Buick FB320	8-3⅞x4⅛	35 @ 35	14°B	.....	.....	.015	.015	AC	46X	14mm	.025	.015	6°B	.....	120
218DWX1-51	Her DWXLD	6-4¼x5	45 @ 180°	.....	.....	.....	.010	.010	.....	.....	Diesel	.....	.....	.....	.....	.....

I—Inner. O—Outer.

VALVE SPRINGS

MODEL		Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
FITZJOHN		See engines pages 112-115			
FLXIBLE—218B1-51	I.	52	1⅛	24	1⅜
218DWX-51	O.	120	1⅛	52	1⅜
		See Hercules page 113			

I—Inner. O—Outer.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
FITZJOHN—310	1/16	1	1½	8
FTG FTD	1/16	1	2	5½
510	1/16	1	1½	8
635	1/16	1	2	8
FLXIBLE—218B1-51	1/16-1/8	1	2	8½
218DWX1-51	1/16-1/8	1	2	8½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range	TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
FITZJOHN—310	(S)30 (W)20	140	90	140Hyp	90Hyp	140	140	140
FTG, FTD, 510	(S)30 (W)20	140	90	140	90	140	140	140
635	(S)40 (W)40	140	90	140Hyp	90Hyp	140	140	140
FLXIBLE—218B1-51	(S)10 or 20 (W)10 or 20	50MO	50MO	C	C	50MO	50MO	E
218DWX1-51	(S)30 (W)30	50MO	50MO	C	C	50MO	50MO	E

(S)—Summer. (W)—Winter. Hyp—Hypoid gear lube. MO—Straight mineral oil. C—Equivalent to U. S. Spec. No. 2-105-8.
E—Viscous, medium bodied, semi-fluid grease.

G. M. C.

Models TDH, TGH, PD, PDA

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY			Cooling System Capacity, Quarts
	Engine Quarts	Transmission Pints	Rear Axle Pints	
TGH 2708, 3101	9	26	11.25	28
TDH 3209, 3612	17	60	20	42
TDH 4010, 4509	25	60	20	58
PD 4103	25	21	18	58
PDA 3704	17	12	18	40

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
TGH 2708, 3101	150	19	Pos	4D
TDH 3209, 3612, 4010, 4509	160	17	Pos	8G
PD 4103, PDA 3704	205	27	Pos	8D

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
270	70-80	70-80	40-45
4-71, 6-71	165-175	(Nuts 155-185) (Bolts 180-190)	65-75

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After °TC	Intake Valve Opens B-Before A-After Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted) Intake	Exhaust	SPARK PLUG Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
TGH 2708, 3101	GMC 270	6-3⅞x4	40-3200a	14°B	.....	.012	.012	.020	AC	44 COM	14mm	.030	A	5°B	.....	110 Min
TDH 3209, 3612, PDA3704†	GMD 4-71	4-4¼x5	40-2000a	.....	.....	.....	.....	.009	.....	Diesel		.....	.....	.....	.....	385*
TDH 4010, 4509, PD 4103†	GMD 6-71	6-4¼x5	40-2000a	.....	.....	.....	.....	.009	.....	Diesel		.....	.....	.....	.....	380*

*—At 500 rpm. †—All Diesels. a—25 psi minimum at speeds shown for worn engines. A—.018—.024.

VALVE SPRINGS

MODEL	VALVE SPRINGS Valve Open Pressure (Ave.) Pounds	Valve Open Length Inches	Valve Closed Pressure (Ave.) Pounds	Valve Closed Length Inches
270	147	1 1/16	58	1 1/16
4-71, 6-71 Exhaust	140	1 1/16	44	2 3/16

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
TGH 2708, 3101	1/16-1/8	1	½	8½
TDH 3209, 3612	1/16-1/8	1	3¼	8
TDH 4010, 4509	1/16-1/8	1	3¼	8½
PD 4103	1/16-1/8	1	3½	8½
PDA 3704	1/16-1/8	1	2	8

LUBRICATION

MODEL	ENGINE Viscosity and Temperature Range			TRANSMISSION Summer	TRANSMISSION Winter	REAR AXLE Summer	REAR AXLE Winter	STEERING GEAR Summer	STEERING GEAR Winter	UNIVERSAL JOINT
TGH-2708, 3101	30 above 90°	20 above 32°	20W below 32°	A	A	90	90	B	B	80
TDH-3209, 3612, 4010, 4509	30 above 20°	20W below 20°	.....	C	C	140	90	B	B	80
PD4103, PDA3704	30 above 20°	20W below 20°	.....	50	50	140	90	B	B	80

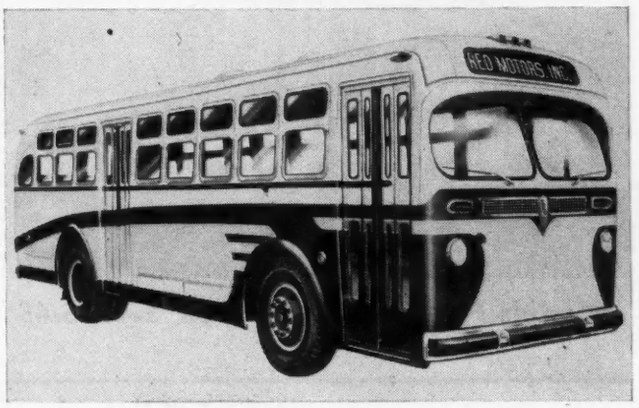
A—Automatic transmission fluid, type A. B—Special steering gear lube C—Special hydraulic transmission oil.

KALAMAZOO

BUS DATA

REO

Model Cruiser



Model Flying Cloud

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing on pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	AABM Group No.
Kalamazoo Cruiser	...	17	Pos	...
Reo Flying Cloud	160	17	Pos	4B

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
IHC 269	75–85	100–110	60–70
Cont. TH 6427	130–140	100–110	100–110

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
Kalamazoo Cruiser	7	...	...	21
Reo Flying Cloud	16	9	...	40*

*—With torque converter, 44 qt.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
Kalamazoo Cruiser	IHC 269	6-3 3/16x4 1/2	40–2000	...	...	...	.018	.018	AC	43	...	.024	.024	3°B	...	...
Reo Flying Cloud	Cont. TH 6427	6-4 1/16x4 7/8	40–1500	16°B	...	.022	.016	.016	CH	...	18mm	.025	A	6°B	...	120

A—.013–.024.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
IHC 269	107	1.668	...	2 11/16*
Cont. TH 6427 I.	...	...	13	1 11/16
O.	...	...	58	1 1/8

I—Inner, O—Outer.
*—Free length.

FRONT END

MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
Kalamazoo Cruiser	1/16–1/4	1	1	8 1/2
Reo Flying Cloud	1/8–1/4	1	1	8

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
Kalamazoo Cruiser	(S) 40	(W) 20	...	...	...	...	...	...	...	...
Reo Flying Cloud	40 above 32°	30 below 32°	20W below 0°	140	90	140	90	140	90	GL

S—Summer. GL—Gear lube. W—Winter.

SOUTHERN — TRANSIT

Models F-31, F-35, F-41, S-36, S-41, S-45

Model 01

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
SOUTHERN				
All Models	160*	102	Pos	....
TRANSIT				
01	160	17	Pos	8G

*—Discharge at 20 hr.

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
SOUTHERN			
Wau. 6M2A	75	75	68
Wau. 140GKB	130	130	100
TRANSIT			
01	70-75	100-110	100-110

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
SOUTHERN				
F-31M	15	8	20	68
F-31H	15	9	20	68
F-35M, F-41M	15	8	23	68
F-35H	15	9	23	68
S-36H	14	9	23	68
S-36M	14	8	23	68
S-41H, F-45H	14	9	31	68
S-41M, F-45M	14	8	31	68
TRANSIT				
01	8	9	14	40

M—Mechanical trans.
H—Hydraulic trans.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
SOUTHERN COACH, Note 1																
F-31M, F-31H, F-35M, F-35H, F-41M	Wau 6MZA*	6-4¼x4¾	40-2100	6°B	2.83	.008	.010C	.020C	CH	8 COM	18mm	.025	.020	5B	TC	80†
S-36M, S-36H, S-41M, S-41H, S-45M, S-45H	Wau 140GKB	6-4½x5½	40-2100	15°B	5.3	.017	.013C	.025C	CH	H-9	14mm	.025	.020	TC	TC	100†
TRANSIT																
01	Con B6427	6-4 1/8x4 1/8	40-50-1800	16	.....	.017	.017C	.022C	.....	6 COM	18mm	.030	.022	6°B	3B	90†

*—Horisontal. †—Minimum. C—Cold.
Note 1—Models designations ending, in M have mechanical trans. Models designations ending in H have hydraulic transmissions.

VALVE SPRINGS

ENGINE MODEL		Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
SOUTHERN					
Waukesha 6MZA		101	1 11/32	64	2 1/32
140GKB	O.	127	1 11/32	67	2 1/16
	I.	70	1 7/16	30	1 13/32
TRANSIT					
Con. B6427	O.	119	1.52	61	1 7/8
	I.	31.5	1 1/4	14.3	1 13/32

O.—Outer. I.—Inner.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
SOUTHERN				
F-31, F-35*	1/8 to 1/4	1 to 1 1/2	1	8
All Models†	1/8 to 1/4	1 to 1 1/2	1	8 1/2
TRANSIT				
01	1/16-1/8	1	3	8 1/2

*—With 35141 or 36008 axles.
†—With F-900 series axle.

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	TRANSMISSION: Winter	REAR AXLE: Summer	REAR AXLE: Winter	STEERING GEAR: Summer	STEERING GEAR: Winter	UNIVERSAL JOINT
SOUTHERN										
All Models	40 above 70°	30 above 50°	A	50	50	0-65*	0-65*	250	160	CL
TRANSIT										
01	40 summer	30 winter	.....	140MO	90MO	140EP	90EP	90EP	90EP	140MO

A—20/20W above 30°, 10W below 30°. CL—Chassis lube. *—Government specification. MO—Mineral oil straight. EP—Extreme pressure gear oil.

TWIN COACH

Models 34S, 38S, 41S, 45S, 52S, 52S2

Note: Specifications are for standard models. If optional engine is used, see data for appropriate engine on this page or under engine manufacturer's listing pages 112-115

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
34S, 38S	20*	7**	12a	42†
41S, 45S, 52S, 52S2	20*	7**	21a	42†

a—Pounds.
*—12 qt. change.
**—Mech. 11 pts.
†—Without heaters.
1—Quantities shown are for each engine-transmission unit.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE [Group No.
All Models	158	17	Pos	8G

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
FTC-180, 210	80	90	90

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Flywheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
Engines Interchangeable In All Models	FTC-180	6-4¼x4¾	45-2000	12°B	.....	.018	.012	.015	CH*	AR-8	14mm	.035	.018	TC	TC	155†
	FTC-210	6-4½x5	45-2000	12°B	.....	.018	.012	.015	AL*	AR-8	14mm	.035	.018	TC	TC	150†
	FLT-200	6-4⅝x5	45-2000	12°B	.....	.018	.012	.015	AL*	AR-8	14mm	.035	.018	TC	TC	....

*—Champion or Auto-Lite spark plugs can be used in both engines. †—At 200 rpm.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
FTC-180, 200, 210	132-140	1 1/32	65-72	1 11/32

FRONT END

MODEL	TOE-IN (In Inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
34S, 38S	1/32	1	1¾	8
41S, 45S, 52S, 52S2	1/32	1	1½	8½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
34S, 38S	10 above 0°	20 above 20°	30 above 50°*	140EP†	90EP†	140EP	90EP	140EP	90EP	No. 1 CG
41S, 44S, 52S, 52S2	10 above 0°	20 above 20°	30 above 30°*	140EP†	90EP†	140GO	90GO	140EP	90EP	No. 1 CG

*—SAE 40 above 75°F.
†—With torque converter use SAE 50 engine oil, summer and winter.
EP—Extreme pressure lube.
CG—Chassis grease.
GO—Gear oil.

MARMON HERRINGTON

Models 8MB, 8M2B

WHITE

Models 1136, 1136S, 1140, 1140S, 1144, 1144S

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.
MAR-HER (All Models)	158	17	Pos	....
WHITE (All Models)	160	17	Pos	8G

TENSIONS

ENGINE MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
MAR-HER (All Models)	Bolts 65–70 Nuts 50–55	95–100	.....
WHITE—280TA	105–110	70–75	70–75
24A	85–90	70–75a	48–52

a—Front, center and rear. Intermediate, 105–115.

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
MAR-HER (All Models)	9†	9	7	34‡
WHITE—1136, 1140	15†	80	22	21‡*
1144	10½†	80	22	21‡*
1136S, 1140S	15†	20	22	21‡*
1144S	10½†	20	22	27‡*

*—Gallons; with heaters. ‡—Without heater.
†—Oil change with old filter.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
MAR-HER 8MB, 8M2B	Ford "254"	6-3.5x4.4	50@2000	11°B	.....	.015	.....	.....	CH	H-9 Com	14mm	.025	.025	TC*	.....	.....
WHITE 1136, 1140, 1136S, 1140S	Own 280TA	6-4⅝x5	.....	15°B	.....	—ZE	RO	LASH—	CH	6COM	18mm	.025	.....	6°B	.....	.....
1144, 1144S	Own 24A	12-4½x4¼	.....	10°B	.....	—ZE	RO	LASH—	CH	6COM	18mm	.025	.....	.....	.....	.....

*—Automatic advance begins at 500 RPM and continues to a total of 18°.

VALVE SPRINGS

MODEL	VALVE SPRINGS: Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
MAR-HER (All Models)	112–120	.....	47–53	2.109
WHITE				
1136, 1140, 1136S, 1140S (280TA)	190	1.827	93*	2.250
1144, 1144S (24A)	124	2.013	77*	2.394

*—Installed height.

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
MAR-HER (All Models)	0–1/16	1	3	.....
WHITE (All Models)	1/8	1	0	8½

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
MAR-HER (All models)	30 above 32°	20 above 10°	10W@—10°—10°	50†	50†	140MO	90MO	90EP	90EP	140
WHITE 1136, 1140, 1144	(S) 30	(W) 20	.....	20*	10*	140	90	SGL	SGL	140
1136S, 1140S, 1144S	(S) 30	(W) 20	.....	70	70	140	90	SGL	SGL	140

(S)—Summer. (W)—Winter. *—Approved torque converter fluid must be used. SGL—Steering gear lubricant 150–160. †—Engine oil.
EP—Mild extreme pressure lube. MO—Mineral oil straight.

PASSENGER CARS

CHEVROLET (1951 Models)

DODGE (All 1951 Models)

FORD (All 1951 Models)

NASH (1951 Statesman)

PLYMOUTH (All 1951 Models)

PONTIAC (1951 6-Cyl. Models)

STUDEBAKER (1951 Champion)

CAPACITIES

MODEL	LUBRICANT CAPACITY: Engine Quarts	Transmission Pints	Rear Axle Pints	Cooling System Capacity, Quarts
CHEVROLET	5½†	1½	3½	15
DODGE	5	2¾‡	3¼△	13
FORD (6 Cyl.)	5*	4‡	3½	16
(8 Cyl.)	5*	4‡	3½	21
NASH (Statesman)	5	1¼	3	14
PLYMOUTH	5	2¾	3¼	13
PONTIAC (6 cyl.)	5	1¾	3¼	18.312
STUDEBAKER (Champion)	5	1½	2½	10

*—Includes oil filter. †—5½ qt. dry, 5 qt. refill.
‡—4 pt. dry; 3¼ pt. refill.
‡—If Gyromatic—3 pts. △—3½ for 137 in. Wb.

BATTERY

MODEL	Amp. Hr. Capacity	Number of Plates	Terminal Grounded	SAE Group No.	AABM Group No.
CHEVROLET	100	15	Neg	1M	1Mfd
DODGE	105	15	Pos	1H	1
FORD (6 Cyl.)	100	17	Pos	.....	.....
(8 Cyl.)	90	15	Pos	.....	.....
NASH (Statesman)	90	13	Pos	.....	.....
PLYMOUTH	100	15	Pos	1M	1
PONTIAC	100	15	Neg	.....	.....
STUDEBAKER (Champ.)	100	15	Pos	1H	1H

TENSIONS

ENGINE MODEL	Cylinder Head (pounds feet)	Main Bearings (pounds feet)	Connecting Rod Bearings (pounds-feet)
CHEVROLET	70–80	100–110A	40–50A
DODGE	C65–70 N52–57	74–80	53–58
FORD (6 Cyl.)	65–70	95–105	45–50
(8 Cyl.)	65–70	95–105	45–50
NASH	57–60	66–70	27–30
PLYMOUTH	C65–70 N52–57	74–80	53–58
PONTIAC	60	95R	45
STUDEBAKER (Champion)	46–50	88.93	28–32

C—Cap screws. N—Nuts. A—With oiled threads.
R—Rear Main 120 lb. ft.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	Exhaust	SPARK PLUG: Make	Type	Size	Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
CHEVROLET	.....	6-3½x3¾	14 @ 39	1°A	.....	**	.006	.013	AC	46-5	14mm	.035	.018A	5°B	.....	110
DODGE	.....	6-3¼x4⅜	40-50@20	8°B	.....	.014	.008	.010	AL	8	14mm	.035	.020	2°B	.....	120
FORD (6 Cyl.)	.....	6-3.3-4.4	50-54@30-40	11°B	.....	.015	.010C	.014C	CH	H-10	14mm	.030	.025	TC	.....	110
(8 Cyl.)	.....	8-3 1/16x3¾	40@30-40	5°B	.....	a	.011	.015	CH	H-10	14mm	.030	.015	2°B	.....	100
NASH (Statesman)	.....	6-3 1/16x4	50 @ 30	6°B	.....	.019	.015	.015	AL	A-5	14mm	.030	.021	TC	.....	120*
PLYMOUTH	.....	6-3½x4⅜	40-50@25	12°B	.....	.014	.010	.010	AL	aR	14mm	.035	.020	2°B	.....	120
PONTIAC (6 Cyl.)	.....	6-3 1/16x4	37.5 @ 40	5°B	.....	.015	.012	.012	AC	45	14mm	.025	.022	6°B	.....	127†
STUDEBAKER (Champion)	.....	6-3x4	40 @ 25-30	15°B	.....	.020	.016C	.016C	CH	J-7	14mm	.025	.020	2°B	.....	120§

*—At cranking. †—At 200 RPM. C—Cold. A—with worn breaker-lever. **—Use exhaust valve set to zero lash. §—@ 150 rpm.
a—.018 opening, .020 closing.

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Length Inches	Valve Closed: Pressure (Ave.) Pounds	Length Inches
CHEVROLET	132	1.505	58	1.821
DODGE	115	1.375	42.5	1.75
FORD (6 Cyl.)	116	1.75	50	2.11
(8 Cyl.)	82	1.81	38½	2.13
NASH (Statesman)	79	1.437	39	1.75
PLYMOUTH	115	1.375	45	1.75
PONTIAC (6 Cyl.)	101	1.594	59½	1.906
STUDEBAKER (Champion)	93-103	1.3125	49-54	1.656

FRONT END

MODEL	TOE-IN (In inches)	CAMBER (In degrees)	CASTER (In degrees)	K. P. SLANT (In degrees)
CHEVROLET	0–⅛	⅛±½	½±½	4±½
DODGE	0–⅛	0–¼	P⅝–N⅛	4¾–5
FORD (All Models)	⅛–⅜	N¼–P¾	N1–P1½	5¼
NASH (Statesman)	⅛–⅜	N¼–P¼	0–½	8½
PLYMOUTH	0–⅛	0–¾a	N1–P1	4¾–6
PONTIAC (8 Cyl.)	0–⅛	0	N¾	4¾–5¼
STUDEBAKER (Champion)	⅛–⅜	0–1a	N1–N2½	5¼

N—Negative. P—Positive. a—½° greater camber on left side.

LUBRICATION

MODEL	ENGINE: Viscosity and Temperature Range			TRANSMISSION: Summer	Winter	REAR AXLE: Summer	Winter	STEERING GEAR: Summer	Winter	UNIVERSAL JOINT
CHEVROLET	20 above 32°	20W@10° to 32°	10W@-10° to 10°*	90	90	90Hyp	90Hyp	A	A	Per
DODGE	30 above 32°	20W@10° to 32°	10W@-10° to 10°†	10‡	10‡	90Hyp	90Hyp	90	90	Fib
FORD (All Models)	20 above 32°	10W@-10° to 32°	*	80	80	90	90	140M	140M	O
NASH (Statesman)	20 above 32°	10W@-10° to 32°	*	90	80	90Hyp	80Hyp	140EP	140EP	.....
PLYMOUTH	30 above 32°	20W@10° to 32°	10W@-10° to 10°†	10‡	10‡	90	90	90	90	Fib
PONTIAC (6 Cyl.)	20W-20 ab. 32°	20W-10 above 10°	10W above -10°	90EP	90EP	90Hyp	90Hyp	B	B	A
STUDEBAKER	30@32° to 90°	20@10° to 32°	10-10W below 10°	90	90	90Hyp	90Hyp	MR	MR	HM

*—10% Kerosene below —10° or SAE 5w. Fib—Heavy fiber universal joint grease. EP—Extreme pressure lube. Hyp—Hypoid gear lube. ‡—Engine oil.
A—Multi-purpose gear lube. B—All-season steering gear lube. HM—High melting point wheel bearing lube. MR—Mfgr's recommendation.
Per—Permanent. †—Below —10°, 5W. M—Mild EP

CONTINENTAL

Series F, M, B, T, R, U, S, TD, RD

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
All Models	5/16" 35-40 7/16" 70-75 1/2" 90-100 9/16" 130-140 5/8" 145-155		1/2" 20-25 9/16" 35-40 7/16" 70-75 1/2" 85-95 9/16" 100-110

VALVE SPRINGS

MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
B6371, B6427	144	1.316	69	1.617
F4124, F4162	100	1 21/32	50	1 45/64
F6186, F6209, F6226	103-110	1 3/4	47-53	1 23/32
M6271, M6290, M6330	119	1.521	61	1 1/2
R6513, R6572, R6602 O.	160	1.617	67	2.117
R6513, R6572, R6602 I.	90	1.367	38	1.867
RD6572	173	1 3/4	76	2 1/4
T6371, T6427, TD6427 O.	130	1.110	69	1.549
T6371, T6427, TD6427 I.	61	1.016	29	1.453
S6749 O.	200	2 1/16	90	2 3/4
S6749 I.	100	2 1/32	45	2 11/32

I—Inner. O—Outer.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
F4124		4-3 3/16x4 5/8	35-40	TC			.014	.014			18mm	.025				115
F4162		4-3 7/16x4 5/8	35-40	TC			.014	.014			18mm	.025				115
F6186		6-3x4 5/8	35-40	2°B			.014	.014A			18mm	.025				116
F6209		6-3 1/16x4 5/8	35-40	2°B			.014	.014			18mm	.025				116
F6226		6-3 1/16x4 5/8	30-40	2°B			.014	.014			18mm	.025				116
M6271		6-3 5/16x4 5/8	40-50	6 1/2°B			.017	.020			18mm	.025				116
M6290		6-3 5/16x4 5/8	40-50	6 1/2°B			.017	.020			18mm	.025				116
M6330		6-4x4 5/8	40-50	6 1/2°B			.017	.020			18mm	.025				116
B6371		6-4 1/16x4 5/8	40-50	6 1/2°B			.017	.022			18mm	.025				116
T6371		6-4 1/16x4 5/8	40-60	20°B			.017	.022			18mm	.025				115
B6427		6-4 1/16x4 7/8	40-50	6 1/2°B			.017	.022			18mm	.025				116
T6427		6-4 1/16x4 7/8	40-60	16°B			.017	.022			18mm	.025				116
U6501		6-4 1/2x5 1/4	40-50	17°B			.020	.024			18mm	.025				120
R6513		6-4 1/2x5 5/8	50-60	17°B			.020	.024			18mm	.025				120
R6572		6-4 3/4x5 5/8	50-60	17°B			.020	.024			18mm	.025				120
R6602		6-4 7/16x5 5/8	50-60	17°B			.020	.024			18mm	.025				120
S6749		6-5 5/16x5 1/2	40-60	14°B			.020	.024			18mm	.025				120
TD6427		6-4 1/16x4 7/8	40-60	20°B			.017	.022			Diesel					375
RD6572		6-5 3/4x5 5/8	40-60	17°B			.020	.024			Diesel					376

A—With Roto Valve, .010; B—With Roto Valve, .016; D—With Roto Valve, .018.

CUMMINS

4, 6 and 12 Cylinder Series

TENSIONS

Engine	Part	Step 1 Initial Tighten	Step 2 Release Tension	Step 3 "Snug" Tighten	Step 4 Final Tighten
AA-600	Main Bearings	160 lb-ft	Loosen Completely	30 lb-ft	60 deg
	Connecting Rod Bearings	30-35 lb-ft	Loosen Completely	30-35 lb-ft	60 deg
JBS-600	Main Bearings	160 lb-ft	Loosen Completely	30-35 lb-ft	60 deg
JBS-600	Connecting Rod Bearings	25-30 lb-ft	Loosen Completely	25-30 lb-ft	60 deg
HB, HBS, HRB, HRBS	Main Bearings	320 lb-ft	Loosen Completely	50 lb-ft	50 deg
NHB, NHBS, NHRBS	Connecting Rod Bearings	140 lb-ft	Loosen Completely	40 lb-ft	60 deg
NVH, NVHS	Main Bearings	350 lb-ft	Loosen Completely	50 lb-ft	60 deg
	Connecting Rod Bearings				140 lb-ft

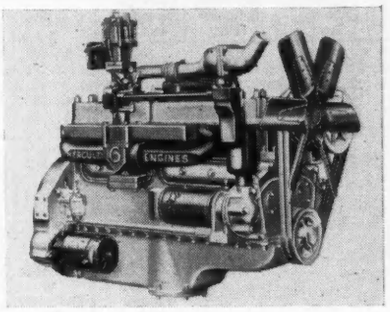
VALVE SPRINGS

MODEL	Valve Open		Valve Closed	
	Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
AA-600, JS-600	108-118	2	66-72	2 13/32
JBS-600	108-118	2	66-72	2 7/16
HB-400, HB-600, HBS-600, HRB-600, HRBS-600	129-143	2 1/16	83-91	2 11/32
NHB-600, NHBS-600, NHRBS-600, NVH-1200, NVHS-1200	104-114	1 31/32	74-82	2 1/4

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at Governed R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
AA-600		6-4x5	30-50	6°B			.015	.025			Diesel					525
JBS-600		4-4 1/16x5	30-50	41°B			.015	.025			Diesel					525
HB-400		4-4 1/2x6	30-50	5°B			.014	.022			Diesel					525
HB-600		6-4 1/2x6	30-50	5°B			.014	.022			Diesel					525
HBS-600		6-4 7/8x6	30-50	77°B			.016	.028			Diesel					525
HRB-600		6-5 1/2x6	30-50	5°B			.014	.022			Diesel					525
HRBS-600		6-5 1/2x6	30-50	77°B			.016	.028			Diesel					525
NHB-600		6-5 1/2x6	30-50	20°B			.014	.027			Diesel					525
NHBS-600		6-5 1/2x6	30-50	77°B			.014	.027			Diesel					525
NHRBS-600		6-5 1/2x6	30-50	55°B			.014	.027			Diesel					525
NVH-1200		12-5 1/2x6	30-50	20°B			.014	.027			Diesel					525
NCHS-1200		12-5 1/2x6	30-50	77°B			.014	.027			Diesel					525

HERCULES



Series ZX, IX, QX, JX, WX, YX, RX, HX and Diesels

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
ZX Series	35	77	25
IX Series	33	77	42
JX Series	75	*80 **70	56
QX Series	60	*80 **70	39
TDXB	70	*105 **123	115
DWX, DWXLD Series	158	175	+225 ††158
DFXH-F	350	260	263
WX Series	75	*70 **105	105 ††53
YX, RX Series	75	*105 **123	105 ‡115
RXL Series	80	175	158 †123
HX Series	105	*183 **210	263
D1X6, D1X4D	158	105a 85b	150
DOO Series	158	*77 **95	175
DJX Series	158	*77 **95	175
DRX Series	5/8"-175 1"-280	175	175
DFX Series	300	260	263

+—Connecting rod 1/2 in.
*—Center and rear.
††—Connecting rod 7/16 in.
‡—Connecting rod 7/16 in.
**—Front and intermediate.
†—Babbitt.
a—Front, center and rear.
b—Intermediate.

VALVE SPRINGS

MODEL		Valve Open		Valve Closed	
		Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
ZX Series		35	1 3/32	22	1 1/32
IX Series		42	1 1/16	21	1 11/16
OO, JX Series		58	1.594	43	1.920
QX Series		37-41	1 3/32	17-19	1 11/32
TDX, OX, WX, WXL, YX, RX, RXL Series		102	2 7/32	50	2 11/32
HX Series	O.	84	3 1/32	47	3 5/16
	I.	50	2 11/32	27	3 3/32
D1X6D, D1X4D	O.	49	1.2125	26	1.5625
	I.	34	1.0875	16	1.4375
DOO, DJX Series	O.	55	1.406	31	1.781
	I.	37	1.281	19	1.656
DWXL, DWX Series	O.	84	1 11/32	38	1 11/32
	I.	74	1 11/32	28	1 1/16
DRX Series	O.	48	1.449	27	1.844
	I.	30	1.355	17	1.750
DFX Series (Except DFXH)	O.	94	2 11/32	55	3 11/32
	I.	57	2 11/32	32	3 1/32
DFXH	O.	124	1 11/32	63	2 3/32
	I.	98	1 11/32	42	2 3/32

I—Inner. O—Outer.

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
IX Series			15-1000	5°A	Var	.006	.006	.008		Opt		.025	.020	N	N	Opt
JXA, JXF, JX6, JXE3, JXB, JX6, JXD			26-1600	5°A	Var	.010	.008	.010		Opt		.025	.020	N	N	Opt
QXA, QXB, QXC, QXD			26-1600	5°B	Var	.006	.006	.008		Opt		.025	.020	N	N	Opt
WX Series			26-1600	2°A	Var	.010	.006	.010		Opt		.025	.020	N	N	Opt
ZX Series			15-1000	5°A	Var	.006	.006	.006		Opt		.025	.020	N	N	Opt
QXLD		6-3 7/16x4 1/4	26-1600	5°B	Var	.006	.008	.010		Opt		.025	.020	N	N	Opt
JX4-E		4-3 1/2x4 1/4	32-1600	5°B	Var	.010	.010	.010		Opt		.025	.020	N	N	Opt
JX4-C		4-3 3/4x4 1/4	32-1600	5°B	Var	.010	.010	.010		Opt		.025	.020	N	N	Opt
JX4-D		4-4x4 1/4	32-1600	5°B	Var	.010	.010	.010		Opt		.025	.020	N	N	Opt
JXLD		6-4x4 1/2	35-1600	5°B	Var	.010	.010	.010		Opt		.025	.020	N	N	Opt
RXB		6-4 1/2x5 1/4	26-1600	2°A	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
RXC		6-4 5/8x5 1/4	36-1600	2°A	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
TDXB		6-4 1/2x5 1/4	36-1600	5°B	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
RXLC		6-4 5/8x5 1/4	36-1600	2°A	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
RXLD		6-4 3/4x5 1/4	36-1600	2°A	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
RXLDH		6-4 3/4x5 1/4	36-1600	2°A	Var	.010	.010	.016		Opt		.025	.020	N	N	Opt
HXB		6-5x6	36-1600	5°B	Var	.015	.010	.016		Opt		.025	.020	N	N	Opt
HXC		6-5 1/4x6	35-1600	5°B	Var	.015	.010	.016		Opt		.025	.020	N	N	Opt
HXD		6-5 1/2x6	35-1600	5°B	Var	.015	.010	.016		Opt		.025	.020	N	N	Opt
HXE		6-5 3/4x6	35-1600	5°B	Var	.015	.010	.016		Opt		.025	.020	N	N	Opt
DIX4D		4-3 5/8x4	45-2000	17 1/2B	Var	.010	.010	.010		Diesel						
DIX6D		6-3 5/8x4	45-2000	17 1/2B	Var	.010	.010	.010		Diesel						
DJXB		6-3 1/2x4 1/2	45-2000	12°B	Var	.010	.010	.010		Diesel						
DJXC		6-3 3/4x4 1/2	45-2000	12°B	Var	.010	.010	.010		Diesel						
DJXH		6-3 3/4x4 1/2	45-2000	12°B	Var	.010	.010	.010		Diesel						
DJXH-F		6-3 3/4x4 1/2	45-2000	12°B	Var	.010	.010	.010		Diesel						
DOOB		4-3 3/4x4 1/2	30-1200	12°B	Var	.010	.010	.010		Diesel						
DOOC		4-4x4 1/2	30-1200	12°B	Var	.010	.010	.010		Diesel						
DOOD		4-4 1/4x4 1/2	30-1200	12°B	Var	.010	.010	.010		Diesel						
DWXD		6-4 1/4x4 3/4	40-1600	17 1/2B	Var	.010	.010	.010		Diesel						
DWXLD		6-4 1/4x5	40-1600	17 1/2B	Var	.010	.010	.010		Diesel						
DWXLD-F		6-4 1/4x5	40-1600	17 1/2B	Var	.010	.016	.016		Diesel						
DRXB		6-4 5/8x5 1/4	30-1200	12°B	Var	.016	.016	.016		Diesel						
DRXC		6-4 5/8x5 1/4	30-1200	12°B	Var	.016	.016	.016		Diesel						
DFXB		6-5x6	50-1200	5°B	Var	.015	.010	.016		Diesel						
DFXC		6-5 1/4x6	50-1200	5°B	Var	.015	.010	.016		Diesel						
DFXD		6-5 1/2x6	50-1200	5°B	Var	.015	.010	.016		Diesel						
DFXE		6-5 5/8x6	50-1200	5°B	Var	.015	.010	.016		Diesel						
DFXH		6-5 3/4x6	50-1200	5°B	Var	.015	.010	.016		Diesel						
DFXH-F		6-5 3/4x6	50-1200	19°B	Var	.014	.010	.016		Diesel						

F—Horizontal type engine. N—Varies with compression ratio.

BUDA

Series 6B, HP, K, L, LO, 6MO, 6BD, 6DT, 6DC, 8DC, 6DA, 8DA

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
All Models	⅜"- 60- 70 7/16"- 75- 85 ½"- 95-105 9/16"-125-135 ⅝"-150-160	1⅛"-195-200 1¼"-210-230 1⅜"-230-250 1½"-245-275 1" -285-315 1⅛"-325-350	

VALVE SPRINGS

MODEL	Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
K-428 (1938-50)	125-138	1 11/16	51-57	2 3/16
LO-525 (1938-50)	128-136	2 1/16	42-49	3 1/16
6MO-779, (1946-50)	145-155	2 7/16	62-68	2 1/4
6MO-893, 6MO-970 (1946-50)	145-155	2 3/8	62-68	2 1/4
6DC-844 (1944-50)	162-172	2 1/16	70-80	2 3/4
6DCS-844 (9145-50)	162-172	2 1/16	70-80	2 3/4
8DC-1125, 8DCS-1125 (1945-50)	162-172	2 1/16	70-80	2 3/4
6DAS-468, 6DTS-468	136-145	1 15/16	52-58	2 1/16
6DA-779, 6DA-844, 6DAS-844, 8DA-1125, 8DAS-1125	162-172	2 1/16	70-80	2 3/4
HP-326, HP-351	96-104	1 15/16	34-38	1 11/16
L-525	125-138	1 15/16	51-57	2 3/16
6DT-317	97-105	1 15/16	40-44	1 15/16
6DT-468	136-145	1 15/16	52-58	2 1/16
6BD-230, 8BD-273	122-131	1 15/16	42-47	1 11/16

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After: °TC	Intake Valve Opens B-Before A-After: Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted): Intake	OPERATING TAPPET CLEARANCE (Hot unless noted): Exhaust	SPARK PLUG: Make	SPARK PLUG: Type	SPARK PLUG: Size	SPARK PLUG: Gap	Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
6B-230		6-3 7/16x4½	20-1600	10°B		.008	.009	.009	CH	J-11	14mm	.027	.018			
6B-273		6-3 15/16x4½	20-1600	10°B		.008	.009	.009	CH	J-11	14mm	.027	.018			
HP326		6-3 11/16x4 5/8	40-1400	TC		.006	.006	.009	CH	15A	18mm	.025	.018			103
HP351		6-3 11/16x5 1/8	40-1400	TC		.006	.006	.009	CH	15A	18mm	.025	.018			103
K428		6-4 5/16x4¾	40-1400	6°B		.006	.006	.009	CH	9COM	18mm	.025	.018			102
L525		6-4½x5½	40-1600	6°B		.006	.006	.009	CH	9COM	18mm	.025	.018			97
LO525		6-4½x5½	40-1500	10°B		.009	.009	.018	CH	J-6	14mm	.027	.018			93
6MO-779		6-5¼x6	40-1400	10°B		.010	.015	.015	CH	6COM	18mm	.025	.018			123
6MO893		6-5¼x6	40-1400	10°B		.010	.015	.015	CH	6COM	18mm	.025	.018			103
6MO970		6-5¼x6½	40-1400	10°B		.010	.015	.015	CH	6COM	18mm	.025	.018			123
6BD-230		6-3 7/16x4½	20-1600	20°B		.008	.009	.009		Diesel						
6BD-273		6-3 15/16x4½	20-1800	20°B		.008	.009	.009		Diesel						
6DT-317		6-3 15/16x5 1/8	30-1600	20°B		.009	.009	.012		Diesel						
6DT468		6-4½x5½	30-1600	17°B		.010	.012	.015		Diesel						
6DC844		6-5¼x6	40-1400	20°B		.010	.015	.015		Diesel						
6DCS-844		6-5¼x6½	40-1400	30°B		.010	.015	.015		Diesel						
8DCS-1125		8-5¼x6½	40-1400	30°B		.010	.015	.015		Diesel						
8DC-1125		8-5¼x6½	40-1400	20°B		.010	.015	.015		Diesel						
6DAS-468, 6DTS-468		6-4½x5½	40-1800	48°B			.016	.020		Diesel						
6DA-779		6-5¼x6	40-1400	20°B		.010	.015	.015		Diesel						
6DA-844		6-5¼x6½	40-1400	20°B		.010	.015	.015		Diesel						
6DAS-844		6-5¼x6½	40-1400	30°B		.010	.015	.015		Diesel						
8DA-1125		8-5¼x6½	40-1400	20°B		.010	.015	.015		Diesel						
8DAS-1125		8-5¼x6½	40-1400	30°B		.010	.015	.015		Diesel						

WAUKESHA

Models 190GL, 195GKA, 6BZ, 6MZA, 6SRKR; 140, 145, 6WA Series and Diesels

VALVE SPRINGS

MODEL		Valve Open: Pressure (Ave.) Pounds	Valve Open: Length Inches	Valve Closed: Pressure (Ave.) Pounds	Valve Closed: Length Inches
190GL		71	1 11/16	48	1 11/16
195GKA		124±10	1 11/16	46±4	2 1/16
6BZ		110	1 3/4	61	2 1/16
6MZA		101	1 11/16	64	2 1/16
6WAKD		180	3 1/16	90*	3 1/16
135DK		162	2 1/16	82	2 1/16
40GK	O.	86	1 11/16	31	2 1/16
	I.	55	1 1/16	26	1 1/16
140GKB, 140GZB (Hi Output)	O.	127	1 11/16	67	2 1/16
	I.	70	1 1/16	30	1 1/16
6SRKR		101	2 1/16	66	2 1/16
145GK, 145GZ	O.	118	2 5/16	48	2 1/16
	I.	81	2 1/16	32	2 1/16
145GKB (Hi Output)	O.	159	2 5/16	67	2 1/16
	I.	100	2 1/16	42	2 1/16
190DLC		71±6	1 11/16	48±4	1 11/16
148DK	O.	118±9	2 5/16	48±4	2 1/16
	I.	81±6	2 1/16	32±3	2 1/16
6WAKD	O.	140±10	2 1/16	50±3	3 1/16
	I.	139±11	2 1/2	56±4	3 1/16

I—Inner. O—Outer.
*—Single spring construction used *when engines operate* constantly at speeds under 1400 RPM.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
190GL	92-100	109-113	46-50Dry 44-48 Oil
6BZ	73-75	88-92	67-69
6MZA	73-75	96-100	67-69
195GKA	92-100	109-113	75-77
140GK-140GKB, 140GZB	175	129-133	96-100
6SRKR	73-75	129-133	96-100
145GK-145GKB	175 Long 150 Short	267-275	67-69
145GZ-145GZB	200 Long 175 Short	267-275	67-69
6WAK-6WAKH	146-150	292-300	88-88
190DLC	96-100	109-113	67-69
148DK	250-267	292-300	67-69
6WAKD	250-267	292-300	92-96
135DK	130-133	133-135	86-88

WAUKESHA—continued

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
190GL		6-3¼x4	12-15*	8°B	3B	.010	.....	.....	Opt	.....	18mm	.025	.018	Var	Var	....
6BZ		6-4x4½	40-1500	8°B	.....	.010	.010-12C	.014-16C	Opt	.....	18mm	.025	.010	Var	.....	112
195GKA		6-4½x4	40*	18°B	.....	.010	.010C	.014C	Opt	.....	18mm	.025	.018	Var	Var	110
6MZA		6-4¼x4¾	40-1500	8°B	3B	.008	.008-10C	.018-21C	Opt	.....	18mm	.025	.018	Var	.....	110
140GK		6-4½x5½	40*	15°B	5B	.....	.012-14C	.018-20C	Opt	.....	14 or 18	.025	.018	Var	Var	....
140GKB (HI Output)		6-4½x5½	40*	15°B	5B	.....	.012-14C	.024-26C	Opt	.....	14 or 18	.025	.018	Var	Var	....
6SRKR		6-4½x5½	40-1500	8°A	3A	.004	.008-10C	.024-26C	Opt	.....	⅞	.025	.018	Var	.....	90
140GZB (HI Output)		6-4½x5½	40*	15°B	5B	.....	.012-14C	.024-26C	Opt	.....	14 or 18	.025	.018	Var	Var	....
145GK, 145GKB (HI Output)		6-5¼x6	40*	15°B	6B	.....	.012-14C	.023-25C	Opt	.....	14 or 18	.025	.018	Var	Var	....
145GZ		6-5¼x6	40*	15°B	6B	.....	.015-17C	.021-23C	Opt	.....	14 or 18	.025	.018	Var	Var	....
6WAK, 6WAKH		6-6¼x6½	40-1500	TC	TC	.012	.018-20C	.025-27C	Opt	.....	18mm	.025	.018	Var	.....	85†
190DLC		6-3¾x4	15-1500	8°B	.....	.010	.009-11C	.015-17C	.....	.....	Diesel		.....	.....	.....	.....
135DK		6-4¼x5	40-2200	11°B	.....	.052	.014C	.020C	.....	.....	Diesel		.....	.....	.....	450
148DK		6-5¼x6	40-1500	10°B	.....	.....	.014-16C	.028C	.....	.....	Diesel		.....	.....	.....	.....
6WAKD		6-6¼x6½	40-1300	TC	TC	.012	.013-15C	.023-25C	.....	.....	Diesel		.....	.....	.....	450

*—At governed speeds. C—Cold. †6WAKH, 125 lb.

VALVE SPRINGS

MODEL		Valve Open		Valve Closed	
		Pressure (Ave.) Pounds	Length Inches	Pressure (Ave.) Pounds	Length Inches
All Models	O.	243	2.000	115	2.485
	I.	243	1.941	115	2.423

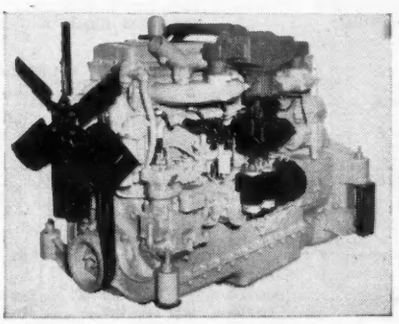
I—Inner. O—Outer.

TENSIONS

MODEL	Cylinder Head (pounds-feet)	Main Bearings (pounds-feet)	Connecting Rod Bearings (pounds-feet)
All Models	L230-250 S30-40	180-200	130-140

L—Large. S—Small.

—HALL-SCOTT—



Models 400, 470, 480, 180, 190, 136, and 504

TUNE UP

MODEL	Standard Engine Make and Model	Number of Cylinders, Bore and Stroke	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE (Hot unless noted)		SPARK PLUG				Breaker Point Gap	Spark Occurs °TC B-Before A-After	Spark Occurs Fly-Wheel Teeth °TC B-Before A-After	Comp. Pressure at Cranking Speed
				°TC	Flywheel Teeth TC		Intake	Exhaust	Make	Type	Size	Gap				
470 Truck		6-5½x6	55-1600	10°B	.....	.....	.021	.031	CH	Note 1	18mm	.018	Note2	2°B	.....	129
480 Truck		6-5¾x6	55-1600	10°B	.....	.....	.021	.031	CH	Note 1	18mm	.018	Note2	2°B	.....	129
400 Truck		6-5¾x7	55-1600	10°B	.....	.....	.021	.031	CH	Note 1	18mm	.018	Note2	2°B	.....	129
180 Bus*		6-5x6	60-2000	7°B	.....	.....	.021	.021	CH	Note 3	18mm	A	B	12°B	.....	116
190 Bus*		6-5¼x6	60-2000	7°B	.....	.....	.021	.021	CH	Note 3	18mm	A	B	12°B	.....	114
136 Bus*		6-4½x5	55-2600	4°B	.....	.....	.023	.023	CH	No. 6	18mm	.018	B	TC	.....	150
504 Bus*		6-4½x5	55-2600	10°B	.....	.....	.025	.025	CH	No. 6	18mm	.018	B	9°B	.....	120

Note 1—Two per cyl. All exhaust, No. 6. Intake (Butane), No. 8 Intake (Gasoline), No. 9. Note 2—Delco-Remy single and both Auto-Lite, .020. Delco-Remy dual, .015.
Note 3—2 per cyl., all No. 6. A—.018 intake side, .020 exhaust side. B—.018-.024. *—Horizontal in line.

COMPONENT PARTS

For additional truck data see Specifications Table, Page 147; Bus Specifications Page 144

• KEY TO ABBREVIATIONS AND REFERENCES •

FOOTNOTES

(1) Shuler and Eaton
(2) Timken and Eaton
(3) Shuler and Timken or Eaton
(4) Shuler and Timken
(5) Integral with carburetor
(6) Loadmaster engine available as optional equipment
(7) Delco - Remy distributor, Bosch magneto, on off-highway units; others, Delco-Remy
(8) Delco-Remy starter, Electric Auto-Lite generator
(9) Auto-Lite generator, Leece-Neville starter
(10) Ensign KGNL or Zen. 63-AW-16
(11) DeLuxe and Cuno
(12) Any of these engines optional on any model
(13) Continental, Hercules, Hall-Scott and Buda engines available in certain Sterling chassis
(14) Integral with motor
(15) Starter, D-R; Generator, AL
(16) Warner or Clark

MAKES OF UNITS

A—American
A-B—American Bosch Corp.
AL—Electric Auto-Lite Co.
AM—Air Maze Corp.
AmL—American Lub.
AmC—American Chain & Cable Co.
AOS—A. O. Smith Co.
Aub—Auburn Clutch Company
A-W—Auto-Lite or Willard
BaB—Ball and Ball
B&B—Borg & Beck Div.
BD—Budd or Dayton
B-D-M—Budd, Dayton or Motor Wheel
Bdd—Budd Wheel Company
Ben—Bendix Products Div.
B-K—Budd or Kelsey Hayes
Bla—Blackstone Corp.
Bld—Blood Bros. Machine Co.
B-L—Brown Lipe (Spicer Mfg. Div.)
B-M—Budd or Motor Wheel
Bos—American Bosch Corp.
Br—Brown
Bud—Buda Co.
BW—Bendix Westinghouse
Car—Carter Carburetor Corp.
C-B—Clark or Budd
Cla—Clark Equipment Co.
Col—Coleman
Con—Continental Motors Corp.
CS—Cleveland Steel Products Co.
Cum—Cummins Engine Co.
Day—Dayton Steel Foundry Co.
DD—Detroit Diesel
DeL—DeLuxe Products Corp.
Det—Detroit Steel Products Co.
Dol—Dollinger Corp.
Don—Donaldson Co.
D-M—Dayton or Motor Wheel
D-R—Delco-Remy Div.
Eat—Eaton Mfg. Co.
Ens—Ensign Carburetor Co.
Eri—Erie Malleable Iron Co.
Exi—Exide (Elec. Storage Battery Co.)
Fed—Fedders-Quigan Corp.
Frd—Ford Motor Co.
Ful—Fuller Mfg. Co.
Gem—Gemmer Mfg. Co.
Gl—Globe-Union, Inc.
GO—G & O Mfg. Co.
G-H—Goodyear-Howley
Han—Handy (King Seeley Corp.)
Har—Harrison Radiator Div.
Her—Hercules Motor Corp.
Hof—Hoof Products Co.
H-S—Hall-Scott Motor Car Co.
Inl—Inland Mfg. Div.
Jms—Jamestown Metal Equipment Co.
KHM—Kelsey Hayes or Moter Wheel
K-S—King Seeley Corp.
Li—Liggett
L-N—Leece Neville Corp.
Lng—Long Mfg. Div.
L-R—Lipe Rollway Corp.
Lub—Luber-Finer, Inc.
Mal—Mallory Electric Corp.
Mar—Maremont Auto. Prod., Inc.
Mat—Mather Spring Co.
McC—McCord Radiator & Mfg. Co.
Mic—Michiana Products Corp.
Mid—Midland Steel Products Co.
Mod—Modine Mfg. Co.
Mur—Murray Corp. of America
MW—Motor Wheel Corp.
Nat—National Battery Co.
NEP—New England Products
NP—New Process Gear
Nug—Wm. W. Nugent Co.
Oak—Oakes North Chicago Div.
Par—Parish (Spicer Mfg. Div.)
Pce—Pierce Governor Co.
Pfx—Perfex Corp.
P-G—Perfex or General Interchangeable
Pur—Purolator Products, Inc
Ro—Ross Gear & Tool Co.
Roc—Rockford Clutch Div.
RP—Rochester Products
Sag—Saginaw Steering Gear Div.
Ser—Service Spring Co.
Sol—Solar
Spi—Spicer Mfg. Div.
SS—Standard Steel Spring Co.
Til—Tillotson Mfg. Co.
Tim—Timken-Detroit Axle Co.
T-S—Tru-Stop (Amer. Chain & Cable)
Tut—Tuthill Spring Co.
Uni—United Air Cleaner Div.
UP—Universal Products Co.
US—United States Spring & Bumper Co.
Var—Various
Vor—Vortex Mfg. Co.
Wag—Wagner Electric Corp.
War—Warner Gear Div.
Wau—Waukesha Motor Co.
WCL—W. C. Lipe (Lipe Rollway Corp.)
WGB—W-G-B Oil Clarifier, Inc.
Wil—Willard Storage Battery Co.
Win—Winslow Eng. Co.
Wys—Willys Overland Motors, Inc.
Yng—Young Radiator Co.
Zen—Zenith Carburetor Div.

†—Core only ‡—Spicer 002068.
*A.C. Mech. and Autopulse Dual
**—Own-front universal joint
•—Specifications same, Engine HRBB600

Line Number	TRUCK MAKE AND MODEL NUMBER	POWER PLANT ACCESSORIES: ENGINE Make and Model	Governor Make—(If Standard)	Air Cleaner Make (If Standard)	Oil Filter Make (If Standard)	CARBURETOR Make and Model Number	Fuel Feed System Make	Radiator Make	ELECTRICAL EQUIPMENT: Ignition System Make	Generator—Starter Make	Battery—Make	CLUTCH Make and Model Number	UNIVERSALS Make and Model Number	RUNNING GEAR: STEERING GEAR Make and Model Number	Hand Brakes Make of Actuation	Brake Drum Make	Wheels—Make	Springs—Make	Frame—Make
	BROCKWAY																		
1	88WH	Con 38B	.....	Uni	.....	Zen 63A12	AC	GO	AL	AL	Exi	LR 13 in.	Spi 1410	Ro TA14	War	Tim	Bdd	Eat	Par
2	128W	Con 40B	.....	Uni	.....	Zen 63A14	AC	GO	AL	AL	Exi	LR 13 in.	Spi 1410	Ro TA14	TS	Tim	Bdd	Eat	Par
3	148W	Con 40B	KS	Uni	WGB	Zen 63A14	AC	GO	AL	AL	Exi	LR 13 in.	Spi 1500	Ro TA66	TS	Tim	Bdd	Eat	Par
4	148W	Con 42BX	KS	Uni	WGB	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in.	Spi 1500	Ro 151W-TA66	TS	Tim	Bdd	Eat	Par
5	151W, 153W, 153BB	Con 42BX	KS	Uni	WGB	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in	Spi 1506	Ro TA71	TS	4	Bdd	Eat	Par
6	182W	Con 42BX	.....	Uni	WGB	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in.	Spi 1500	Ro TA71	TS	(1)	Bdd	Eat	Par
7	154W(T)	Con 42BX	.....	Uni	WGB	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in	Spi 1500	Ro TA66	TS	(2)	Bdd	Eat	Par
8	154WH(T)	Con 46B	.....	Uni	Mic	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14in.	Spi 1500	Ro TA66	TS	(2)	Bdd	Eat	Par
9	240XW	Con 46B	.....	Uni	Mic	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in.	Spi 1500	Ro TA71	TS	(1)	Bdd	Eat	Par
10	260XW	Con 48B	.....	Uni	Mic	Zen 63AW16	AC	GO	AL	AL	Exi	LR 15 in.	Spi 1600	Ro TA71	TS	(3)	Bdd	Eat	Par
11	260XL	Con 46B	.....	Uni	Mic	Zen 63AW16	AC	GO	AL	AL	Exi	LR 14 in.	Spi 1600	Ro TA71	TS	Tim	Bdd	Eat	Par
12	260XWL	Con 48B	.....	Uni	Mic	Zen 63AW16	AC	GO	AL	AL	Exi	LR 15 in.	Spi 1600	Ro TA71	TS	Tim	Bdd	Eat	Par
	BROWN																		
13	R6572TC-TH, R6572TJ	Con 6572	(14)	AM	Con	Zen 63AW16	*	PG	DR	DR	Exi	LR 15ML-295‡	Spi 1200	Ro TA71	Own	Eri	Eri	Mat	Par
14	140GKT	Wau 140GK	(14)	AM	Con	Zen 63AW16	*	PG	DR	DR	AL	LR 15ML-295‡	Spi 1200	Ro TA71	Own	Eri	Eri	Mat	Par
15	HB600TJD	Cum HB600	(14)	Cum	Lub	.....	Cum	PG	.....	DR	AL	LR 15ML-301	Spi 1200	Ro TA71	Own	Eri	Eri	Mat	Par
16	HRB 600TJD, HRBB600 TJD°	Cum HRB600	(14)	Cum	Lub	.....	Cum	PG	.....	DR	AL	LR 15ML-326	Spi 1200	Ro TA71	Own	Eri	Eri	Mat	Par
17	NHB600TJD	Cum NHB600	(14)	Cum	Lub	.....	Cum	PG	.....	DR	AL	LR 15ML-326	Spi 1200	Ro TA71	Own	Eri	Eri	Mat	Par
18	6DA844TKD	Bud 6DA844	Bud	Don	Lub	.....	AB	PG	.....	DR	Br	BL-14-2P LR15ML326	Spi 1700	Ro TA71	Own	Eri	Eri	Mat	Par
19	6DA779TKD	Bud 6DA779	Bud	Don	Lub	.....	AB	PG	.....	DR	Br	BL-14-2P LR15ML326	Spi 1700	Ro TA71	Own	Eri	Eri	Mat	Par
20	6DTS468TKD	Bud 6DTS468	Bud	Don	Lub	.....	AB	PG	.....	DR	Br	LR-15ML-326	Spi 1700	Ro TA71	Own	Eri	Eri	Mat	Par
	CHEVROLET																		
21	JP, JR, JS	O-T/Master	.....	AC	.....	RP-7002050	AC	Har	DR	DR	DR	Inl	Spi**	Sag	Own	Own	BK	Own	Own
22	JT, JU	O-L/Master	.....	AC	.....	Car-BB1-871S	AC	Har	DR	DR	DR	Inl	Spi**	Sag	Own	Own	BK	Own	Own
23	UJ	O-T/Master (6)	Han	AC	.....	RP-7002050	AC	Har	DR	DR	DR	Inl	Spi	Sag	Own	Own	BK	Own	Own
24	UK, UL	O-T/Master (6)	.....	AC	.....	RP-7002050	AC	Har	DR	DR	DR	Inl	Spi	Sag	Own	Own	BK	Own	Own
25	UP(S), UR(S), US(S)	O-L/Master	.....	AC	.....	Car-BB1-871S	AC	Har	DR	DR	DR	Inl	Spi	Sag	Own	Own	BK	Own	Own
26	UV(S), UY(S), UW(S), UX	O-L/Master	.....	AC	.....	RP-7002051	AC	Har	DR	DR	DR	Inl	Spi	Sag	Own	Own	BK	Own	Own
	COLEMAN																		
27	G55S	Bud LO525	Mal	Uni	AC	Hol 885-FFG	AC	Yng	DR	DR	Wil	LR-Mod. Z42S	Spi 1600	Ro T72183X	T-S	.....	.....	Col	Col
	CORBITT																		
28	G101	Con-M6330	Zen	Uni	Fram	Zen-63AW12R	AC	Pfx	DR	DR	Exi	LR-13ML	Spi-1500	Ro-TA66	Cla	Day	Day	Mar	Par
29	G301	Con-B6371	Zen	Uni	Con	Zen-29W12R	AC	Pfx	DR	DR	Exi	LR-13ML	Spi-1600	Ro-TA66	Ful	Day	Day	Mar	Par
30	G302	Con-B6427	Zen	Uni	Con	Zen-29-14R	AC	Pfx	DR	DR	Exi	LR-14ML	Spi-1600	Ro-TA66	Ful	Day	Day	Mar	Par
31	G402	Con-T6427	Mal	Uni	Con	Zen-29W16	AC	Pfx	DR	DR	Exi	LR-14ML	Spi-1600	Ro-TA66	Ful	Day	Day	Mar	Par
32	G601	Con-R6513	Con	Uni	Mic	Zen-29W16	AC	Pfx	DR	DR	Exi	LR-15ML	Spi-1700	Ro-TA70	Own	Day	Day	Mar	Par
33	G602	Con-R6572	Con	Uni	Mic	Zen-29W16	AC	Pfx	DR	DR	Exi	LR-15ML	Spi-1700	Ro-TA70	Own	Day	Day	Mar	Par

A Compilation of Standard Model Data . . . . Submitted by Truck Manufacturers

Line Number	TRUCK MAKE AND MODEL NUMBER	POWER PLANT ACCESSORIES: ENGINE Make and Model	Governor Make—(If Standard)	Air Cleaner Make (If Standard)	Oil Filter Make (If Standard)	CARBURETOR Make and Model Number	Fuel Feed System Make	Radiator Make	ELECTRICAL EQUIPMENT: Ignition System Make	Generator—Starter Make	Battery—Make	CLUTCH Make and Model Number	UNIVERSALS Make and Model Number	RUNNING GEAR: STEERING GEAR Make and Model Number	Hand Brakes Make of Actuation	Brake Drum Make	Wheels—Make	Springs—Make	Frame—Make
	CORBITT—(Cont.)																		
34	G603	Con-R6602	Con	Uni	Mic	Zen-29W16	AC	Pfx	DR	DR	Exi	LR-15ML	Spi-1700	Ro-TA70	Own	Day	Day	Mar	Par
35	D202	Her-DJXH	Her	AM	Pur	.....	AB	Pfx	....	DR	Exi	LR-13ML	Spi-1500	Ro-TA66	Cla	Day	Day	Mar	Par
36	D404	Cum JBS600	Cum	Uni	Cum	.....	Cum	Pfx	....	DR	Exi	LR-14ML	Spi 1700	Ro TA70	BW	Own	Day	Mar	Par
37	D401, D402 Eng., Her-DWXLD	Her-DWXD	Her	AM	Pur	.....	AB	Pfx	....	DR	Exi	LR-14ML	Spi-1600	Ro-TA66	Ful	Day	Day	Mar	Par
38	D801	Her-DRXC	Her	AM	Pur	.....	AB	Pfx	....	DR	Exi	LR-15ML	Spi-1700	Ro-TA70	Own	Day	Day	Mar	Par
39	D801	Cum-HB600	Cum	Uni	Del	.....	Cum	Pfx	....	DR	Exi	LR-15ML	Spi-1700	Ro-TA71	Own	Day	Day	Mar	Par
40	D802	Cum-HRB600	Cum	Uni	Lub	.....	Cum	Pfx	....	DR	Exi	LR-15ML	Spi-1700	Ro-TA71	Own	Day	Day	Mar	Par
41	D803	Cum-NHB600	Cum	Uni	Lub	.....	Cum	Pfx	....	DR	Exi	LR-15ML	Spi-1700	Ro-TA71	Own	Day	Day	Mar	Par
42	D808	Cum-HRBB600	Cum	Uni	Lub	.....	Cum	Pfx	....	DR	Exi	LR-15ML	Spi-1700	Ro-TA71	Own	Day	Day	Mar	Par
	CROSLEY																		
43	Pickup Truck, Panel Delivery.	Own	.....	Fram	Fram	Tll DY-9C	AC	Yng	AL	AL	AL	Cla 2131-2	Nep 6001	Ro S12	Ben	Own	MW	Mat	Own
	DIAMOND T																		
44	222, 322	Her QXLD	KS	Uni	Wix	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1350	Ro-TA14	War	Var	Cla	Own	Own
45	404, 509SC	Her JXB	KS	Uni	Wix	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1410	Ro-TA26	War	Var	Day	Own	Own
46	404SC	Her JXE	KS	Uni	Fram	Zen	AC	Own	AL	AL	Exi	B & B 11A6	Spi 1410	Ro-TA21	War	Var	Cla	Own	Own
47	420	Her JXB	KS	Uni	Wix	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1410	Ro-TA21	War	Var	Day	Own	Own
48	420	Her JXC	KS	Uni	Wix	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1410	Ro-TA21	War	Var	Gun	Own	Own
49	420	Her JXD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	B & B 12E	Spi 1410	Ro-TA21	(16)	Var	Gun	Own	Own
50	509SCH	Her JXC	KS	Uni	Fram	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1410	Ro-TA26	Cla	Var	CB	Own	Own
51	520	Her JXC	KS	Uni	Wix	Zen	AC	Own	AL	AL	AL	B & B 11A6	Spi 1410	Ro-TA21	War	Var	Gun	Own	Own
52	520	Her JXD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	B & B 12E	Spi 1410	Ro-TA21	Cla	Var	Gun	Own	Own
53	520	Her JXLD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	.....	.....	.....	.....	.....	.....	.....	.....
54	614SC	Her JXD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	B & B 12E	Spi 1500	Ro-TA26	Cla	Var	Day	Own	Own
55	614SC	Her JXLD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	LR12ML	Spi 1500	Ro-TA26	Cla	Var	Day	Own	Own
56	620	Her JXD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	B & B 12E	Spi 1500	Ro-TA26	Cla	Var	Gun	Own	Own
57	620	Her JXLD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	LR 12ML	Spi 1500	Ro-TA26	Cla	Var	Gun	Own	Own
58	650T	Cont T6427	KS	Uni	Mic	Zen	AC	Own	AL	AL	AL	Roc 14TT	Spi 1500	Ro-TA26	Cla	Var	Gun	Own	Own
59	702A	Her WXLD	Pce	Uni	Mic	Zen	AC	Own	AL	AL	AL	Roc 14TT	Spi 1600	Ro-TA66	TS	Var	Gun	Own	Own
60	660	Cont T6427	KS	Uni	Mic	Zen 28ADA10	AC	Own	AL	AL	AL	Roc 14TT	Spi 1600	Ro TA26	Cla	Var	Gun	Own	Own
61	720	Cont T6427	KS	Uni	Mic	Zen 28ADA10	AC	Own	AL	AL	AL	Roc 14TT	Spi 1600	Ro TA66	TS	Var	CB	Own	Own
62	722	Herc TDXB	Pce	Uni	Mic	Zen 28ADA10	AC	Own	AL	AL	Exi	LR 14ML	Spi 1600	Ro TA66	TS	Var	CB	Own	Own
63	920	Cont R6572	Pce	Uni	Mic	Zen 29D13RP	AC	Own	AL	AL	AL	Roc 15TT	Spi 1600	Ro TA71	TS	Var	CB	Own	Own
64	921	Cum HB600	AB	Uni	.....	.....	AB	Own	DR	DR	AL	Roc 15TT	Spi 1600	Ro TA71	TS	Var	CB	Own	Own
65	921R	Cum HRBB600	AB	Uni	.....	.....	AB	Own	DR	DR	AL	Spi 14TT	Spi 1700	Ro TA71	TS	Var	Day	Own	Own
	DART																		
66	100	Wau 140GK	.....	Don	Fram	Zenith	AC	Own	DR	DR	A	LR 14 in.	Spi 1600	Ro TA71	AmC	Tim	Bdd	Bur	Own
67	100UG	GM 4055	.....	Vor	.....	.....	GM	Own	DR	DR	A	LR 14 in.	Spi 1600	Ro TA71	AmC	Tim	Bdd	Bur	Own
68	100UG	Cum HR400	.....	Uni	.....	.....	Cum	Own	DR	DR	A	LR 14 in.	Spi 1600	Ro TA71	AmC	Tim	Bdd	Bur	Own
69	110	GM 6094	.....	Vor	.....	.....	GM	Own	DR	DR	A	LR 15 in.	Spi 1700	Ro TA71	AmC	Tim	Bdd	Bur	Own
70	150	Wau 145GK	.....	Don	Fram	Zenith	AC	Own	DR	DR	A	LR 15 in.	Spi 1800	Ro TW74	AmC	Tim	Bdd	Bur	Own
71	200/3010	Wau 140GK	.....	Don	Fram	Zenith	AC	Own	DR	DR	A	LR 15 in.	Spi 1600	Ro TA74	AmC	Tim	Bdd	Bur	Own
72	200/456	Wau 140GK	.....	Don	Fram	Zenith	AC	Own	DR	DR	A	LR 15 in.	Spi 1700	Ro TW74	AmC	Tim	Bdd	Bur	Own
73	250/472	Cum NHBS	.....	Uni	.....	.....	Cum	Own	DR	DR	A	LR 17 in.	Spi 1800	.....	AmC	Tim	Bdd	.....	.....
74	D75C	Cum NHRS	.....	Uni	.....	.....	Cum	Own	DR	DR	A	LR 17 in.	Spi 1800	Ro TW74	AmC	Tim	Bdd	Own	Own
75	D75C	Bud DAS-1125	.....	Don	.....	.....	Bud	Own	DR	DR	A	LR 17 in.	Spi 1800	Ro TW74	AmC	....	Bdd	Own	Own
	DODGE																		
76	B-3-DU	Own 230	.....	Uni	.....	Str 3-100	AC	Bla	AL	AL	AL	B&B 11825	UP 5160	Gem 305	Own	Own	Bdd	Det	Aos
77	B-3-EU	Own 230	.....	Uni	.....	Str 3-100	AC	Bla	AL	AL	AL	B&B 11830	UP 5160	Gem B-60	Own	Own	Bdd	Det	Aos
78	B-3-B	Own 218	.....	Uni	.....	Car DTE-1	AC	Bla	AL	AL	AL	B&B 11826	Spi 1260	Gem 305	Own	Own	MW	Det	Mur
79	B-3-C	Own 218	.....	Uni	.....	Car DTE-1	AC	Bla	AL	AL	AL	B&B 11826	Spi 1260	Gem 305	Own	Own	Bdd	Det	Mur
80	B-3-D	Own 230	.....	Uni	.....	Str 3-100	AC	Bla	AL	AL	AL	B&B 11826	UP 5160	Gem 305	Own	Own	Bdd	Det	Mur
81	B-3-F, B-3-G	Own 237	.....	Uni	.....	Car E7-T1	AC	Fed	AL	AL	AL	B&B 11827	CS 096	Gem B60	Own	Own	Bdd	Det	Mid
82	B-3-GM	Own 237	.....	Uni	.....	Car 6N1	AC	Fed	AL	AL	AL	B&B 11827	CS 096	Gem B60	Own	Own	Bdd	Det	Mid
83	B-3-H, B-3-HH	Own 237	Han	Uni	Pur	Car E7-T1	AC	Fed	AL	AL	AL	B&B 11830	CS 096	Gem B60	Own	Own	Bdd	Det	Mid
84	B-3-HM, B-3-HHM	Own 237	Han	Uni	Pur	Car 6N1	AC	Fed	AL	AL	AL	B&B 11830	CS 096	Gem B60	Own	Own	Bdd	Det	Mid
85	B-3-J, B-3-K	Own 251	Han	Uni	Pur	Car E7-T1	AC	Fed	AL	AL	AL	B&B 11830	UP 5370	Gem B60	Own	Own	Bdd	Det	Mid
86	B-3-JM, B-3-KM	Own 251	Han	Uni	Pur	Car 6N1	AC	Fed	AL	AL	AL	B&B 11830	UP 5370	Gem B60	Own	Own	Bdd	Det	Mid
87	B-3-PW	Own 251	(5)	AC	Pur	Car E7-S1	AC	Fed	AL	AL	AL	B&B 11828	UP 5370	Gem B60	Own	Own	Bdd	Det	Mid
88	B-3-R	Own 306	Han	AC	Pur	Car E7-T1	AC	Bla	AL	AL	AL	B&B 11575	CS D96	Gem B60	Own	Own	Bdd	Det	Mid
89	B-3-T, B-3-V	Own 331	Han	AC	Pur	Car E7-T1	AC	Bla	AL	AL	AL	B&B 11581	CS U96	Ross TA26	Own	Tim	Bdd	Det	Mid
90	B-3-Y	Own 377	Han	AC	Pur	Car E7-U1	AC	Bla	AL	AL	AL	B&B 11733	CS U96	Ross TA66	Own	Tim	Bdd	Det	Mid
	DUPLEX																		
91	TH	Her JXD	.....	.....	.....	Zen 28AV11	AC	Own	AL	AL	Wil	B&B 13 in.	Spi 1500	Ro TA27072	.....	Tim	MW	Tut	Own
92	TH339	Her JXLD	.....	.....	.....	Zen 29W14	AC	Own	AL	AL	Wil	B&B 13 in.	Spi 1500	Ro TA27121	.....	Tim	MW	Tut	Own
93	GR-6	Her WXC3	Hof	AM	Mic	Zen 29W14	AC	Own	AL	AL	AY	B&B 13E	Spi 1600	Ro TA66	Own	Tim	Day	Tut	Own
94	RH	Her WXLC3	.....	.....	.....	Zen 28AV12	AC	Own	AL	AL	AL	B&B 13 in.	Spi 1600	Ro TA67061	.....	Tim	MW	Tut	Own
95	KH, JH	Her RXC	.....	.....	.....	Zen IN167SJ	AC	Own	AL	AL	AL	B&B 14 in.	Spi 1600	Ro TA72243	.....	Tim	MW	Tut	Own
96	SH501	Her RX8	.....	.....	.....	Zen IN167SJ	AC	Own	AL	AL	AL	B&B 14 in.	Spi 1600	Ro TA72243	.....	Tim	MW	Tut	Own
97	LH	Her RXLD	.....	.....	.....	Zen IN167SJ	AC	Own	AL	AL	AL	LR 15 in.	Spi 1700	Ro TA72152	.....	Tim	MW	Tut	Own
98	LHS6	HS 400	.....	.....	.....	Zen 1510MVM2	AC	Own	DR	AL	AL	LR 15 in.	Spi 1700	Ro TA72152	.....	Tim	MW	Tut	Own
99	LHS6	HS 480	.....	.....	.....	Zen 1510MVM2	AC	Own	DR	AL	AL	LR 15 in.	Spi 1700	Ro TA72152	.....	Tim	MW	Tut	Own
	FEDERAL																		
100	16M Series	Her JXEF	.....	Uni	Pur	Car	AC	Lng	DR	DR	AL	B&B 11 in.	Spi 1300	Gem 335	.....	....	BD	Det	Par
101	18M Series	Her JXBF	.....	Uni	Pur	Car	AC	Lng	DR	DR	AL	B&B 11 in.	Spi 1300	Gem 335	.....	....	BD	Det	Par
102	25M Series	Her JXCF	.....	Uni	Fram	Car	AC	Lng	DR	DR	AL	B&B 12 in.	Spi 1400	Gem 335	.....	....	BD	Det	Par
103	29M Series	Her JXDF	K-S	Don	Fram	Car	AC	Lng	DR	DR	AL	B&B 12 in.	Spi 1500	Gem 335-3	.....	....	BD	Det	Par
104	29ML Series	Her JXLDF	K-S	Don	Fram	Car	AC	Lng	DR	DR	AL	B&B 12 in.	Spi 1500	Gem 335-3	.....	....	BD	Det	Par
105	35M Series	Con T6371	K-S	Don	Mic	Zen	AC	Lng	DR	DR	AL	B&B 13 in.	Spi 1500	Gem 375	.....	....	BD	Det	Par
106	45M, 55M Series	Con T6427	K-S	Don	Mic	Zen	AC	Lng	DR	DR	Exi	L-R 14 in.	Bid 1600	Gem 400	.....	....	BD	Det	Par

COMPONENT PARTS Continued from Page 117

Line Number	TRUCK MAKE AND MODEL NUMBER	POWER PLANT ACCESSORIES							ELECTRICAL EQUIPMENT			CLUTCH	UNIVERSALS	RUNNING GEAR					
		ENGINE Make and Model	Governor Make—(If Standard)	Air Cleaner Make (If Standard)	Oil Filter Make (If Standard)	CARBURETOR Make and Model Number	Fuel Feed System Make	Radiator Make	Ignition System Make	Generator—Starter Make	Battery—Make	Make and Model Number	Make and Model Number	STEERING GEAR Make and Model Number	Hand Brakes Make of Actuation	Brake Drum Make	Wheels—Make	Springs—Make	Frame—Make
	FEDERAL—(Cont.)																		
107	60M Series	Con 22R	Zen	Don	Mic	Zen	AC	Lng	DR	DR	Exl	L-R 14 in.	Bld 1600	Gem 500	.....	....	BD	Det	Par
108	65M Series	Con R8602	Con	Don	Mic	Zen	AC	Lng	DR	DR	Exl	L-R 15 in.	Bld 1700	Gem 500	.....	....	BD	Det	Par
109	629M Series	Her JXDF	KS	Don	Fram	Car	AC	Lng	DR	DR	AL	B&B 12 in.	Spi 1500	Gem 335-3	Cla	DM	BD	Det	Par
110	629ML Series	Her JXLDF	KS	Don	Fram	Car	AC	Lng	DR	DR	AL	B&B 13 in.	Spi 1500	Gem 335-3	Cla	DM	BD	Det	Par
111	635M Series	Con T6371F	KS	Don	Mic	Zen	AC	Lng	DR	DR	Exl	B&B 13 in.	Spi 1500	Gem 375	TS	DM	BD	Det	Par
112	645M Series	Con T6427F	KS	Don	Mic	Zen	AC	Lng	DR	DR	Exl	L-R 14 in.	Bld 1600	Gem 400	TS	BD	BD	Det	Par
113	663M, 664M Series	Con R8602	Con	Don	Mic	Zen	AC	Lng	DR	DR	Exl	L-R 15 in.	Bld 1700	Gem 500	.....	....	Bdd	Det	Par
	FORD																		
114	F-1, F-2, F-3, F-4, F-5, F-6,																		
115	F-7, F-8	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own	Own
	FREIGHTLINER																		
116	A-64, B-42	Cum NHB600	.....	Vor	Lub	.....	....	Own	....	DR	AL	LR 15 in. DP	Spi 1700	Gem 500	TS	Own	Bdd	Own	Par
	FWD																		
117	H6X6	Wau,MZA	Wau	Don	Mic	Zen IN167SJ	AC	Own	DR	DR	Wil	Own LR-H14	Bld 5N	Ro TA66	Own	Own	Own	Own	Own
118	HA	Wau 195GKA	Wau	AM	Mic	Zen IN167SJ	AC	Own	DR	DR	Wil	Own LRH	Bld 5N	Ro TA66	Own	Own	Own	Own	Own
119	HG, HR, HRT	Wau MZA	Wau	AM	Mic	Zen IN167SJ	AC	Own	DR	DR	Wil	Own LR-H14	Bld 5N	Ro TA66	Own	Own	Own	Own	Own
120	LD	Her QXLD3	Hoof	Uni	.....	Car BBRI-769S	AC	Own	AL	AL	GI	B-B11A6	Spi 1410	Ro TA14	Own	Tim	Bdd	Own	Own
121	M6X6	Wau 145GK	Wau	AM	Mic	Zen W16	AC	Own	DR	DR	Wil	Own LR-M15	Bld 7N	Ro P720	AmC	Tim	Bdd	Own	Own
122	M6X6D	Bud 844	DeL	Don	DeL	.....	Bud	Own	....	DR	Wil	Own LR-M15	Bld 7N	Ro P720	AmC	Tim	Bdd	Own	Own
123	M7, M10	Wau 145GK	Wau	AM	Mic	Zen W16	AC	Own	DR	DR	Wil	Own LR-M14	Bld 7N	Ro P720	Own	Tim	Bdd	Own	Own
124	M7D, M10D	Bud 844	DeL	Don	DeL	.....	Bud	Own	....	DR	Wil	Own LR-M14	Bld 7N	Ro P720	Own	Tim	Bdd	Own	Own
125	MU6X6	Wau 145GK	Wau	AM	Mic	Zen W16	AC	Own	DR	DR	Wil	Own M15	Bld 6N	Ro TW74	Own	Own	Own	Own	Own
126	SU	Wau SRKR	Wau	AM	Mic	Zen IN167SJ	AC	Own	DR	AL	Wil	Own LR-U14	Bld 6N	Ro TW74	Own	Own	Own	Own	Own
127	YU	Wau 140GK	Wau	Don	Mic	Zen 29-14	AC	Own	DR	DR	Wil	Own LR-U15	Bld 6N	Ro TW74	Own	Own	Own	Own	Own
128	ZU	Wau 140GZ	Wau	Don	Mic	Zen 29-16	AC	Own	DR	DR	Wil	Own LR-U15	Bld 6N	Ro TW74	Own	Own	Own	Own	Own
	KENWORTH																		
129	521, 522, 523, 524, 548, 552, 584, 825	Cum HB600	Cum	Don	Cum	.....	Cum	Pfx	....	DR	Exl	B-L 14 Sngl.	Spi 1700	Gem 500	T-S	Tim	Bdd	Own	Own
130	585, 829	Wau 149GZB	Wau	Don	Mic	Zen 29W16	AC	Pfx	DR	DR	Exl	B-L 14 Sngl.	Spi 1700	Gem 500	T-S	Tim	Bdd	Own	Own
131	888	Cum-NHB600	Cum	Don	Cum	.....	Cum	Pfx	....	DR	Exl	B-L 14 Sngl.	Spi 1700	Gem 500	T-S	Tim	Bdd	Own	Own
	LINN																		
132	Linn A15, A25	Her JXE3	Hof	Dol	.....	Zen 63AW10	AC	Yng	AL	AL	AL	LR 12ML	UP 5380	Ro TA26	NP	Eri	Bdd	Li	Own
133	Linn A35, A45	Her JXC	Hof	Dol	.....	Zen 63AW10	AC	Yng	AL	AL	AL	LR 12ML	UP 5380	Ro TA26	NP	Eri	Bdd	Li	Own
	MARMON-HERRINGTON																		
134	DVL4	Wys CJ-2A	Hof	Uni	Fram	Car 596S	AC	Yng	AL	DR	AL	B&B	Spi 1350	Ro TA15030	Own	Own	Bdd	Ser	....
135	LD7, R3, R4, R5, R6, R5-6, R6-6	Frd 8RT (239)	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	.....	Frd	Frd	Frd	Frd	Frd	Frd
136	Q5, Q6, Q5-6, Q6-6	Frd 8EQ (337)	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	Frd	.....	Frd	Frd	Frd	Frd	Frd	Frd
	MILFORD																		
137	QX	Wau 6MZA	Wau	AM	Mic	Zen 63AW12	AC	Pfx	DR	DR	Exl	L-R 14ML	Bld 6N	Ro TA71	AmC	Tim	Bdd	Tut	Par
138	QY	Wau 140GK	Wau	Vor	Mic	Zen 63AW16	AC	Pfx	DR	DR	Exl	L-R 15ML	Bld 6N	Ro TW74	AmC	Tim	Bdd	Tut	Par
	OSHKOSH																		
139	W212	Her JXLD	Pce	Don	Mic	Zen 29AW14	AC	Own	DR	AL	Wil	LR 13SP	Spi 1500	Ro TA66	Tim	Own	Bdd	Tut	Par
140	W312	Her WXLCO3	Pce	Don	Mic	Zen 29AW14	AC	Own	DR	DR	Wil	LR 14SP	Spi 1500	Ro TA71	Tim	Own	Bdd	Tut	Par
141	WA703	Her RXLD	Pce	Don	Mic	Zen 29AW14	AC	Own	AL	DR	Wil	LR 14SP	Spi 1600	Ro TA71	Own	Own	Bdd	Tut	Par
142	W-712-6X6	Her RXLDH	Pce	Don	Mic	Zen 29-D-13	AC	Own	AL	Or	Wil	LR 15SPS	Spi 16, 1700	Ro TA71	Own	Tim	Bdd	Tut	Par
143	W712	Her RXLDH	Pce	Don	Mic	Zen 29D13	AC	Own	AL	DR	Wil	LR 15SP	Spi 1600	Ro TA71	Own	Own	Bdd	Tut	Par
144	WA906R	Cum HRB600	Cum	Don	AM	.....	Cum	Own	....	DR	Wil	LR 15SP	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
145	WA1600BD	Bud 6DC844	Bos	Don	DeL	.....	Bos	Own	....	DR	Wil	LR 15SP	Spi 17, 1800	Ro TA71	Tim	Own	Bdd	Tut	Par
146	WA1600BG	Bud 6MO893	Pce	Don	DeL	(10)	AC	Own	(7)	DR	Wil	LR 15SP	Spi 17, 1800	Ro TA71	Tim	Own	Bdd	Tut	Par
147	WA1600CD	Cum HB600	Cum	Don	Cum	.....	Cum	Own	....	DR	Wil	LR 15SP	Spi 17, 1800	Ro TA71	Tim	Own	Bdd	Tut	Par
148	W1700	Her RXC	Pce	Don	Mic	Zen 29AW14	AC	Own	DR	DR	Wil	LR 14SP	Spi 1600	Ro TA71	Own	Own	Bdd	Tut	Par
149	W2200	Bud 6MO779	Pce	Don	DeL	Zen 63AW16	AC	Own	DR	DR	Wil	LR 15SP	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
150	W2201	Bud 6MO893	Pce	Don	DeL	Zen 63AW16	AC	Own	DR	DR	Wil	LR 15SP	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
151	W2206	HS 400	HS	Don	HS	Zen I5I0MWM2	AC	Own	DR	(9)	Wil	LR 152P	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
152	WA220B	Cum NHB600	Cum	Don	AM	.....	Cum	Own	....	DR	Wil	LR 152P	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
153	W2209	CumNHRBS600	Cum	Don	AM	.....	Cum	Own	....	DR	Wil	LR 152P	Spi 1700	Ro TA71	Own	Own	Bdd	Tut	Par
	PETERBILT																		
154	280, 350, 360, 370, 380	Cum HB600	Cum	Don	Cum	.....	Cum	Pfx	....	DR	DR	BL 13, 14DP	Spi 1700	Ro TA71	TS	Tim	Bdd	US	Par
155	390	Cum HB600	Cum	Don	Cum	.....	Cum	Pfx	....	DR	DR	BL 13, 14DP	Spi 17, 1800	Ro TA71	TS	Tim	Bdd	US	Par
	REO																		
156	F-20	Own OA255	KS	Uni	Fram	Car BBR2-799S	AC	Fed	DR	DR	Wil	B&B 11A6	Spi 1410	Ro TA14	Own	MW	MW	SS	Own
157	F-21	Own OA255	KS	Uni	Fram	Car BBR2-799S	AC	Fed	DR	DR	Wil	B&B 11A6	Spi 1410	Ro TA26	Own	....	MW	SS	Own
158	F-22	Own OA292	KS	Uni	Fram	Zen 28ADA10	AC	Mod	DR	DR	Wil	Lng 12CF	Spi 1500	Ro TA26	Own	....	MW	SS	Own
159	F-22R	Own OA331	KS	Uni	Fram	Zen 28ADA10	AC	Mod	DR	DR	Wil	Lng 12CF	Spi 1500	Ro TA26	Own	....	Day	SS	Own
160	F-225	Own OA331	KS	Uni	Fram	Zen 28ADA10	AC	Mod	DR	DR	Wil	Lng 13 in.	Spi 1500	Ro TA70	Own	....	Day	SS	Own
161	F-23	Cont TC427	Huf	AM	Fram	Zen 29W16	AC	Mod	DR	DR	Wil	WCL Z325	Spi 1600	Ro TA70	Own	....	Bdd	SS	Own
162	F-226	Own OA331	KS	Uni	Fram	Zen 28ADA10	AC	Mod	DR	DR	Wil	Lng 13 in.	Spi 1600	Ro TA70	Own	....	Bdd	SS	Own
163	F-236	Cont T6T6427	Huf	AM	Fram	Zen 29W16	AC	Mod	DR	DR	Wil	WCL Z325	Spi 1600	Ro TA70	Own	....	Bdd	SS	Own
	STERLING																		
164	HD97, HD105, HA1401	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
165	DD115, HD115, HD145	Wau 6SRKR	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
166	DD145	Wau 145GK	Wau	Don	DeL	Zen 29-16	AC	Mod	DR	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
167	HD115H, HD145H	Cum HB600	Cum	Don	AmL	.....	Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
168	DD145H	Cum HB600	Cum	Don	Cum	.....	Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
169	HC97, HC105	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TA71	Own	Tim	Bdd	Mar	Par
170	HC115, HC144, HC147, HC155	Wau 6SRKR	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TA71	Own	Tim	Bdd	Mar	Par
171	HC175, HC250	Wau 145GK	Wau	Don	DeL	Zen 29-16	AC	Yng	DR	DR	Nat	LR 15 in. SP	Bld 70N	Gem 550	Own	Tim	Day	Mar	Par
172	HC115H	Cum HB600	Cum	Don	Cum	.....	Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
173	HC175H, HC250H	Cum HBD600	Cum	Don	Cum	.....	Cum	Mod	....	DR	Nat	LR 15 in. SP	Bld 70N	Gem 550	Own	Tim	Day	Mar	Par
174	TB1301T	Wau 140GKB	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Day	Mar	Par
175	TB1301TD	Cum HB600	Cum	Don	AmL	.....	Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Day	Mar	Par
176	TB1501T	Wau 140GZB	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Day	Mar	Par
177	TB1501TD, TA1501TD, TA1511TD, TA1601D, TA1611D	Cum NHB600	Cum	Don	AmL	.....	Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Day	Mar	Par
178	HA1101, HA1401	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TA71	Own	Tim	Day	Mar	Par
179	HA1601, HA1701	Wau 6SRKR	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
180	HB2001	Wau 140GKB	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Spi 1600,1700	Ro TA71	Own	Tim	Bdd	Mar	Par

Line Number	TRUCK MAKE AND MODEL NUMBER	POWER PLANT ACCESSORIES: ENGINE Make and Model	Governor Make (If Standard)	Air Cleaner Make (If Standard)	Oil Filter Make (If Standard)	CARBURETOR Make and Model Number	Fuel Feed System Make	Radiator Make	ELECTRICAL EQUIPMENT: Ignition System Make	Generator—Starter Make	Battery—Make	CLUTCH Make and Mode Number	UNIVERSALS Make and Model Number	RUNNING GEAR: STEERING GEAR Make and Model Number	Hand Brakes Make of Actuation	Brake Drum Make	Wheels—Make	Springs—Make	Frame—Make
	STERLING—(Cont.)																		
181	HB2001D	Cum HBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
182	HA1605, HA1805	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
183	HB2205, HB2755	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Spi 1600,1700	Ro TA71	Own	Tim	Bdd	Mar	Par
184	HB2755D, HA2605D	Cum HBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
185	TA2105D, TA2115D	Cum NHB600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
186	HA1502, HA1802, HA1803, HA1813, HB2002	Wau	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TA71	Own	Tim	Bdd	Mar	Par
187	HB2002D, HB2003D, HB2013D, HB2503D, HB2516D	Cum HBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Bld 70N	Ro TA71	Own	Tim	Bdd	Mar	Par
188	HB2003, HB2013	Wau 140GKB	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TA71	Own	Tim	Bdd	Mar	Par
189	HB2516	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Bld 60N, 70N	Ro TA71	Own	Tim	Bdd	Mar	Par
190	HB2756	Wau 140GKB	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Bld 60N, 70N	Gem 550	Own	Tim	Bdd	Mar	Par
191	HB2756D, HB3006D, HB3506D	Cum HBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Bld 70N	Gem 550	Own	Tim	Bdd	Mar	Par
192	HB4506D	Cum NHBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Bld 70N, 75N	Ro P720	Own	Tim	Day	Mar	Par
193	SF6506D	Buda 8DA1125	Bud	Don	Bud		Bud	Mod	....	DR	Nat	LR 15 in. 2P	Spi 1700,1800	Ro P720	Own	Tim	Day	Mar	Par
194	SF7506D	Buda 8DAS1125	Bud	Don	Bud		Bud	Mod	....	DR	Nat	LR 15 in. 2P	Spi 1700,1800	Ro P720	Own	Tim	Day	Mar	Par
195	HB1204	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
196	HA1304	Wau 6SRKR	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1600	Ro TA71	Own	Tim	Bdd	Mar	Par
197	HB1604	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Spi 1600,1700	Ro TA71	Own	Tim	Bdd	Mar	Par
198	HB1904	Wau 145GK	Wau	Don	DeL	Zen 29-16	AC	Mod	DR	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
199	HB1904D	Cum HBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
200	HB2254	Wau 145GKB	Wau	Don	DeL	Zen 29-16	AC	Mod	DR	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
201	HB2254D	Cum NHBD600	Cum	Don	AmL		Cum	Mod	....	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
202	CC10	Wau 6MZA	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Bld 60N	Ro TW74	Own	Tim	Bdd	Mar	Own
203	CC20	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Yng	DR	DR	Nat	LR 14 in. SP	Bld 70N	Ro TW74	Own	Tim	Bdd	Mar	Own
204	DDS160	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
205	HWS160	Wau 6SRKR	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
206	HA2205	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
207	HWS235G	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
208	HWS235	Wau 145GK	Wau	Don	DeL	Zen 29-16	AC	Yng	DR	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
209	HWS160H	Cum HB600	Cum	Don	Cum		Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
210	HWS235H	Cum HB600	Cum	Don	Cum		Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1700	Gem 550	Own	Tim	Bdd	Mar	Par
211	HCS195	Wau 140GK	Wau	Don	DeL	Zen IN167SJ	AC	Mod	DR	DR	Nat	LR 14 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
212	HCS265, HCS297, HCS330	Wau 145GK	Wau	Don	DeL	Zen 29-16	AC	Yng	DR	DR	Nat	LR 15 in. SP	Bld 70N	Gem 550	Own	Tim	Bdd	Mar	Par
213	HCS195H	Cum HB600	Cum	Don	Cum		Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1700	Ro TA71	Own	Tim	Bdd	Mar	Par
214	HCS265H, HCS297H, HCS330H	Cum HBD600	Cum	Don	Cum		Cum	Yng	....	DR	Nat	LR 15 in. SP	Bld 70N	Gem 550	Own	Tim	Bdd	Mar	Par
215	HCS340H	Cum NHBD600	Cum	Don	Cum		Cum	Yng	....	DR	Nat	LR 15 in. SP	Spi 1800	Gem 550	Own	Tim	Day	Mar	Par
	STUDEBAKER																		
216	2R5, 2R10	Own 1R	.....	Uni	.....	Car BBRI633S	AC	McC	AL	AL	Wil	B&B 9A7	Spi 1270	Ro TA12	Wag	Bdd	Bdd	MW	Own
217	2R15	Own 2R	.....	Uni	.....	Car BBRI633S	AC	McC	AL	AL	Wil	B&B 9A7	Spi 1358	Ro TA14	Wag	MW	MW	Own	Own
218	2R16A, 2R16B	Own 4R	.....	Uni	.....	CarBBR1606AA	AC	McC	DR	DR	Wil	Ini "G"	Spi 1358	Ro TA14	Wag	MW	MW	Own	Own
219	2R17A, 2R17B	Own 4R	.....	Uni	.....	CarBBR1606AA	AC	McC	DR	DR	Wil	Ini "G"	Spi 1358	Ro TA14	Wag	MW	MW	Own	Own
220	2R6, 2R11	Own 6R	.....	Uni	.....	Car BBRI777SA	AC	McC	DR	DR	Wil	Ini "G"	Spi 1270	Ro TA12	Wag	Bdd	Bdd	Own	Own
221	2R14	Own 6R	.....	Uni	.....	Car BBRI777SA	AC	McC	DR	DR	Wil	Ini "G"	Spi 1358	Ro TA14	Wag	MW	MW	Own	Own
	WARD LA FRANCE																		
222	D1	Con T6427	Hof	Uni	Mar	Zen 29W16	AC	Pfx	AL	AL	AL	LR 14 in. SP	Bld 6N	Ro TA66	.....	Tim	Day	Mar	Own
223	D1C	Con T6427	Hof	Uni	Mar	Zen 29W16	AC	Pfx	AL	AL	AL	LR 14 in. SP	Bld 6N	Ro TA71	.....	Tim	Day	Mar	Own
224	D2K, D2KT2, D2Z	Wau 140GK	Hof	Uni	Mar	Zen 29W14	AC	Pfx	AL	AL	AL	LR 15 in. SP	Spi 1700	Ro TA71	.....	Tim	Day	Mar	Own
225	D3, D3T8	Con R6572	Hof	Uni	Mar	Zen 29W16	AC	Pfx	AL	AL	AL	LR 15 in. SP	Spi 1700	Ro TA71	.....	Tim	Day	Mar	Own
226	D3S, D3ST8	Con R6602	Hof	Uni	Mar	Zen 29W16	AC	Pfx	AL	AL	AL	LR 15 in. SP	Spi 1700	Ro TA71	.....	Tim	Day	Mar	Own
227	D5, D5T2, D5T8	Cum HB600	.....	.....	.....	.....	.....	Pfx	....	DR	AL	LR 15 in. SP	Spi 1700	Ro TW74	.....	Tim	Day	Mar	Own
228	D5N	Cum NHB600	.....	.....	.....	.....	.....	Pfx	....	DR	AL	LR 15 in. SP	Spi 1700	Ro TW74	.....	Tim	Day	Mar	Own
229	D1T2	Con T6427	Hof	Uni	Mar	Zen 29W16	AC	Pfx	AL	AL	AL	LR 14 in. SP	Spi 16 or 1700	Ro TA71	.....	Tim	Day	Mar	Own
230	D2KT8	Wau 140GK	Hof	Uni	Mar	Zen 29W14	AC	Pfx	AL	AL	AL	LR 15 in. SP	Spi 1700	Ro TW74	.....	Tim	Day	Mar	Own
	WILLYS-OVERLAND																		
231	CJ-3A Jeep	Own	.....	Oak	Fram	Car W0596S	AC	Har	AL	AL	AW	Aub 8501-23	Spi 1261	Ro T13108	Spl	Khm	Khm	Mat	Mid
232	4-WD Truck	Own	Hof	Oak	Fram	Car YF	AC	Har	AL	AL	AW	Aub 8501-19	Spi 1261	Ro T13017	Ben	Khm	Khm	Mat	AOS
233	473 Series	Own	.....	AC	.....	Car YF	AC	Har	AL	AL	AW	Aub 8501-19	Spi 1261	Ro T13086	Ben	Khm	Khm	Mat	AOS

Transportation Engineering Formulas

DRAWBAR PULL

$$DP = \frac{.90 \times \text{lb. in Torque} \times FGR}{R} - .012\ GVW$$

DP = Drawbar Pull
R = Rolling Radius in Inches
FGR = Final Gear Ratio
GVW = Gross Vehicle Weight
.90 = Efficiency for all rear axles except worm, then .85.
lb. in Torque = 12 times Torque in lb. ft.
.012 = 12 lb. per 1000 lb. Rolling Resistance

GRADE ABILITY

$$GA = \frac{TE}{GVW} \text{ minus } .012$$

GA = Grade Ability
TE = Tractive Effort
GVW = Gross Vehicle Weight
.012 = 12 lb. per 1000 lb., rolling resistance on hard-surfaced roads

FINAL GEAR RATIO

$$FGR = \frac{R \times GVW \times (GA + .012)}{\text{lb. in. Torque} \times .90}$$

GA = Grade Ability
GVW = Gross Vehicle Weight
lb. in. Torque = 12 × lb. ft. Torque
R = Rolling Radius in Inches
.90 = Efficiency for all rear axles except worm, then .85
.012 = Rolling resistance on hard-surfaced roads

TRACTIVE EFFORT

$$TE = \frac{\text{lb. in Torque} \times FGR \times .90}{R}$$

R = Rolling Radius in Inches
FGR = Final Gear Ratio
lb. in. Torque = 12 times Torque in lb. ft.
.90 = Efficiency for all rear axles except worm, then .85

AIR RESISTANCE

Air Resistance = $.0025 \times (MPH)^2 \times FA$
FA = Frontal area of equipment in sq. ft.
MPH = Miles Per Hour

TIRE REV. PER MILE

$$Rev. = \frac{5280 \times 12}{2 \times 3.1416 \times LR} = \frac{10084}{LR}$$

Rev. = Revolutions per Mile
LR = Loaded Radius in Inches

Note: Revolutions per mile should be furnished for rear wheel tire on dry level pavement at 35 mph. To predetermine this figure without actual road test, correct calculated rev. per mile as follows: For truck and bus tires, deduct 1½ per cent; For passenger car tires, deduct 2%. Data taken from Tire and Rim Assn. Yearbook.

Factors Affecting
TIRE MILEAGE

Tire life is closely tied in with these eight conditions. A study of the graphs will help you help your tires to more mileage

Fig. 1. SPEED. High speed increases tire temperatures and causes faster tread wear. Tires running at 50 mph can be expected to give only 61% of results obtained at 35. And tires running at 25 mph will give 20% more mileage than those traveling 35.

Fig. 2. ROADS. The type of road surface as well as the topography can affect tire mileage as much as 50%, as shown on these two charts, the figures for which are based on actual operation.

Fig. 3. LOAD. Tire mileage diminishes rapidly as tires are loaded beyond capacity. For example, as the chart shows, a 30% overload results in a 42% cut in expected mileage. The increased heat from excessive flexing causes high tread wear.

Fig. 4. ROTATION. Rate of tread wear is slower on initial application of front tires than on rear tires, as indicated by slope of line 1 as compared with line 2 on chart. New tires on rear wore smooth at 15,500 miles, while non-skid design of new front tires was only 50% worn off.

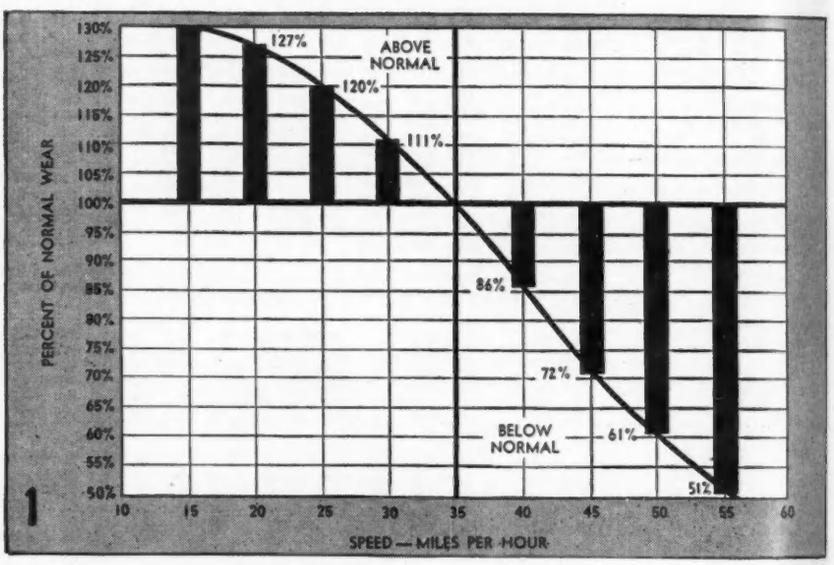
Fig. 5. INFLATION. Chart shows how expected mileage is reduced as underinflation progresses. Underinflation results in fast, irregular tread wear due to increased squirming and scuffing over the contact area. Overinflation promotes danger of bruising and cutting.

Fig. 6. TEMPERATURE. Tread mileage is inversely proportional to tire temperatures. For example, an increase from 75 to 85 deg will result in a reduction in tread mileage of about 13%. And a decrease in air temperature from 75 to 65 deg will add about 9% to the expected tread wear.

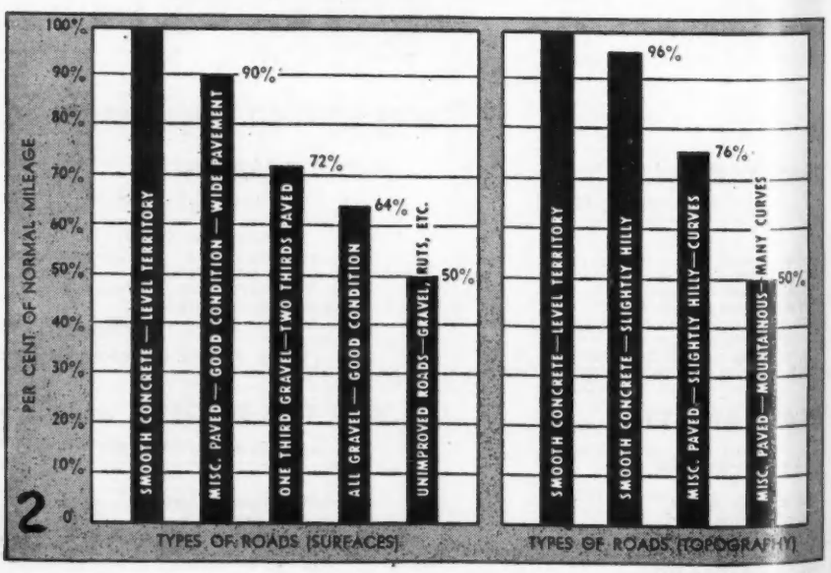
Fig. 7. BLEEDING. Bleeding tires increases the amount of flexing, and greater flexing causes higher temperatures. When tires are bled, inflation drops appreciably below recommended pressure upon cooling. This graph cites proof that bleeding does not pay.

Fig. 8. WHEEL POSITION. Figures taken from actual performance show, as indicated on this chart, that 33% more mileage can be expected from tires run 100% on trailer wheels than on tires run 100% on drive wheels. Similarly, 57% higher mileages can be expected from front tires than those on drive wheels.

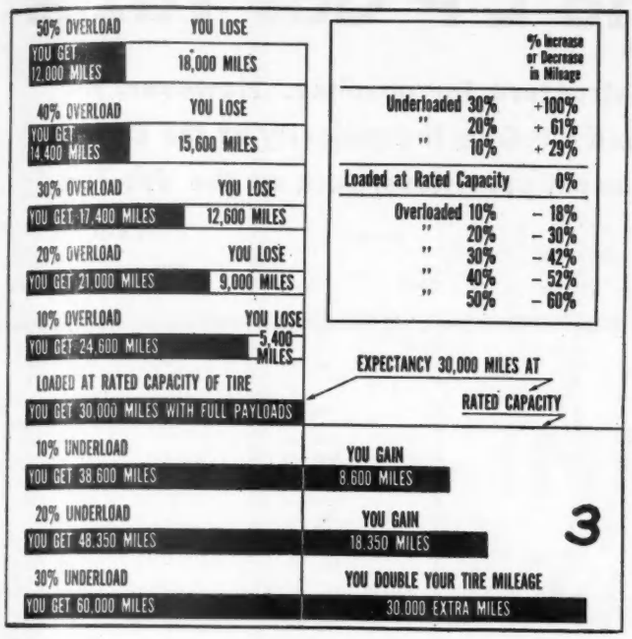
Effect of Speed



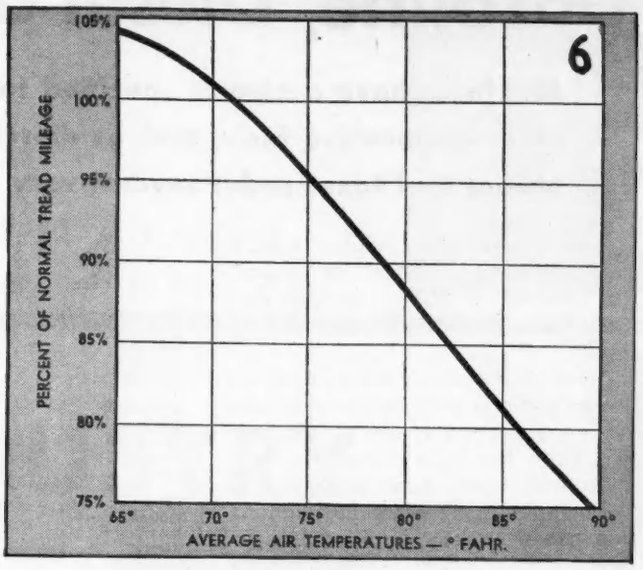
Effect of Road Surface



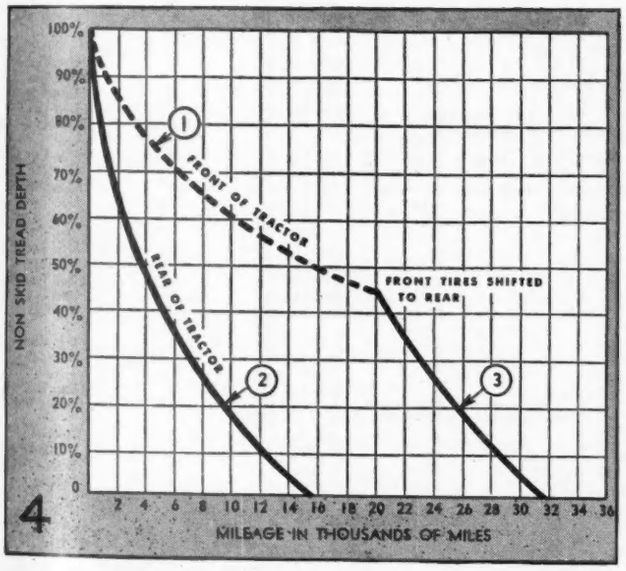
Effect of Load



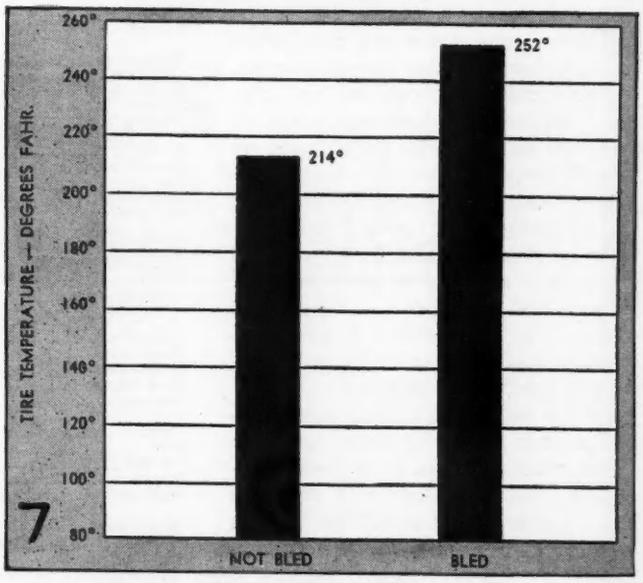
Effect of Temperature



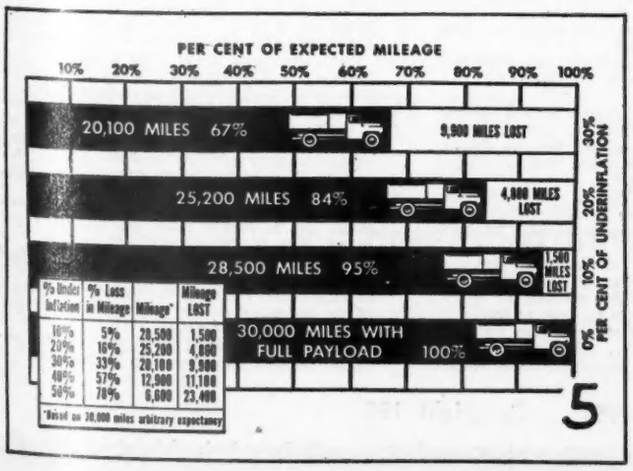
Effect of Tire Rotation



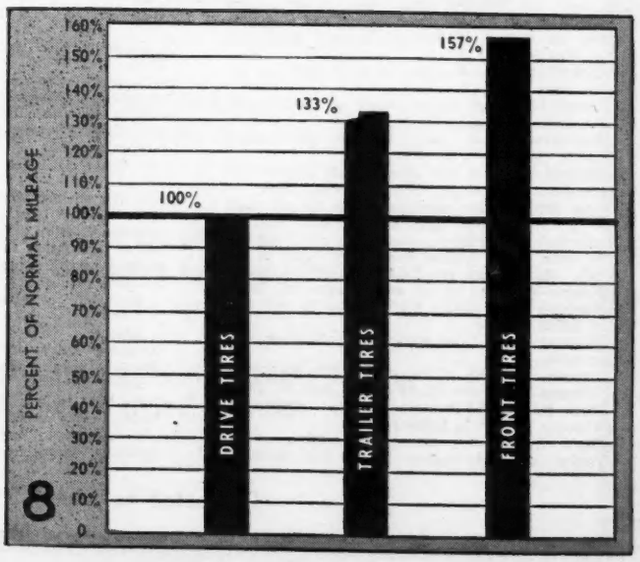
Effect of Bleeding



Effect of Inflation


PER CENT OF EXPECTED MILEAGE
10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
20,100 MILES 67%
9,900 MILES LOST
25,200 MILES 84%
4,800 MILES LOST
28,500 MILES 95%
1,500 MILES LOST
30,000 MILES WITH FULL PAYLOAD 100%
30%
20%
10%
0%
PER CENT OF UNDERINFLATION
% Under Inflation | % Loss in Mileage | Mileage* | Mileage LOST
10% 5% 28,500 1,500
20% 16% 25,200 4,800
30% 33% 20,100 9,900
40% 57% 12,900 11,100
50% 78% 6,600 23,400
*Based on 30,000 miles arbitrary expectancy
5

Effect of Tire Location



Gasoline, Diesel and L P Gas Taxes

All states have a clearly specified tax structure for gasoline. However, for other automotive fuels, such as diesel and L P Gas, the majority of the states collect fuel taxes under several very general provisions, such as the Use Tax

The official state motor vehicle fuel tax rates, in cents per gallon, for vehicles operating on highways are shown in the accompanying table.

In some instances, these rates are lower within a state in certain zones or areas competing with a neighboring state having a lower tax rate. Also, some states have delegated to municipalities, or other jurisdictions, the power to levy additional taxes. In those jurisdictions, the gasoline tax rate may be as much as three cents higher than the regular state tax rate.

Where sales taxes are applicable to gasoline, tax rates also are higher.

The table also shows the tax rates on motor vehicle fuels not normally defined as gasoline. Fuels used in diesel engines are the most commonly used type coming under this classification.

In most states, Use Fuel Tax Laws have been enacted to cover any fuel other than gasoline, or the term motor fuel has been broadened to include fuel used in all types of internal combustion engines.

In the remaining states, other provisions for collecting taxes on fuels other than gasoline have been provided. The most common of these is a higher registration fee. These are more fully explained in the footnotes at the bottom of the table.

STATE	GASOLINE* Rate (Cents)	DIESEL* Rate (Cents)	DIESEL* Taxable as	L-P GAS* Rate (Cents)	L-P GAS* Taxable as
Alabama	6H	....	a	....	a
Arizona	5	5	Use Tax	5	Use Tax
Arkansas	6½	6½	Use Tax	6½	Use Tax
California	4½	4½	Use Tax	4½	Use Tax
Colorado	6L	6	Use Tax	6	Use Tax
Connecticut	4	4	Use Tax	4	Use Tax
Delaware	5	5	b	5	b-Gasoline
Florida	7G	7	Use Tax	7	Use Tax
Georgia	7K	7	Use Tax	7	Gasoline
Idaho	6	6	Use Tax	6	Use Tax
Illinois	3	3	Use Tax	3	Gasoline
Indiana	4	4	Use Tax	4	Use Tax
Iowa	4	4	Use Tax	4	Gasoline
Kansas	5F	5	Use Tax	5	Use Tax
Kentucky	7	7	Use Tax	7	Use Tax
Louisiana	9	9	Use Tax	9	Use Tax
Maine	6	6	Use Tax	6	Use Tax
Maryland	5	5	Use Tax	5	Gasoline
Massachusetts	3	3	b	3	b-Gasoline
Michigan	3	5	c	3	c-Gasoline
Minnesota	5	5	Use Tax	5	Use Tax
Mississippi	7	8	b-e	8	b-e
Missouri	2	2	Use Tax	2	Use Tax
Montana	6D	6	Use Tax	6	Gasoline
Nebraska	5	....	a	....	a
Nevada	5½B	5	Use Tax	5	Use Tax
New Hampshire	4M	4	Use Tax	4	Use Tax
New Jersey	3	3	Use Tax	3	Gasoline
New Mexico	6E	6	Use Tax	6	Use Tax
New York	4	4	Use Tax	4	Gasoline
North Carolina	7	7	Use Tax	7	Use Tax
North Dakota	5N	5	Use Tax	5	Use Tax
Ohio	4	4	Use Tax	4	Gasoline
Oklahoma	6.58P	6.58	Use Tax	6.58	Use Tax
Oregon	6	....	a	....	a
Pennsylvania	5C	5	Use Tax	5	Use Tax
Rhode Island	4	4	Use Tax	4	Use Tax
South Carolina	7S	7	Use Tax	7	Use Tax
South Dakota	4	4	Use Tax	4	Use Tax
Tennessee	7R	7	Use Tax	7	Use Tax
Texas	4	6	b	4	L-P Gas
Utah	4	4	Use Tax	4	Use Tax
Vermont	5	....	a-f	....	a-f
Virginia	6	6	Use Tax	6	Use Tax
Washington	6½	6½	b	6½	b-Use Tax
West Virginia	5	5	Use Tax	5	Gasoline
Wisconsin	4	4	Use Tax	4	Gasoline
Wyoming	4T	4	b	4	b-Use Tax
Dist. of Columbia	4A	4	b-d	4	b-Gasoline

*—These are State taxes only. Federal Excise Tax of one and one-half cents per gallon applies only to a part of the fuels listed. For a specific fuel, see Bureau of Internal Revenue Regulation No. 44, Sec. 314.30.

A—District of Columbia—One cent of this tax expires June 30, 1952.

B—Nevada—One and one-half cents of this tax expires June 30, 1951.

C—Pennsylvania—Two cents of this tax expires May 31, 1951.

D—Montana—Six-cent rate effective until Anticipation Debentures are retired. (Not later than 1956)

E—New Mexico—Also municipal taxes up one cent per gallon. Six-cent rate effective until Highway Debentures are retired; thereafter, rate will be five cents. Rate reduced from seven cents to six cents, effective June 30, 1951.

F—Kansas—One cent of tax expires June 30, 1953.

G—Florida—Municipalities may levy up to one cent per gallon gas tax.

H—Alabama—Local taxes may range up to three cents per gallon.

K—Georgia—One cent of tax expires June 30, 1951.

L—Colorado—Two cents of tax expires June 30, 1953.

M—New Hampshire—One cent of tax expires on retirement of certain highway bonds.

N—North Dakota—One cent of tax expires on retirement of certain highway bonds. Rate increased from four cents to five cents, effective March 12, 1951.

P—Oklahoma—One cent of tax expires May 31, 1951.

R—Tennessee—One cent of tax expires on retirement of certain highway bonds.

S—South Carolina—One cent of tax expires June 30, 1954.

T—Wyoming—Rate of four cents effective until May 18, 1951; thereafter, rate is five cents.

a—In lieu of fuel taxes, Alabama, Nebraska, Oregon and Vermont have established a differential fee whereby vehicles using non-taxed fuel are charged higher registration (or other) fees than are charged vehicles using taxable fuel.
Alabama—Increased registration fees. Increase, graduated according to weight, amounts to 1,666% for light vehicles to 87½% for heavy vehicles.
Nebraska—100% increase of registration fees.
Oregon—Increased registration fees. Increase, graduated according to weight, amounts to 450% for light vehicles to 65% for heavy vehicles.
Vermont—100% increase of registration fees.

b—In addition to fuel taxes, Delaware, District of Columbia, Massachusetts, Mississippi, Texas, Washington and Wyoming have established higher registration (or other) fees for vehicles using other than gasoline.
Delaware—100% increase of registration fees.
District of Columbia—100% increase of registration fees.
Massachusetts—233% increase of registration fees.
Mississippi—Flat fee of $50 is gross weight is less than 20,000 lb or $100 if over that.
Texas—10% increase of registration fees.
Washington—25% increase of registration fees.
Wyoming—One mill tax per ton-mile on unladen weight.

c—Michigan—Five-cent rate (four cents for municipally-franchised vehicles) applies to motor fuel used in diesel engines only. When used otherwise, rate is three cents.

d—District of Columbia—Kerosene for other than automotive use is exempt from fuel tax but subject to 2% Sales Tax.

e—Mississippi—Eight-cent rate applies to liquid fuels other than gasoline. User of fuel not measurable in gallons pays tax equal to seven cents per gallon of the amount of gasoline required to propel such vehicle the distance travelled.

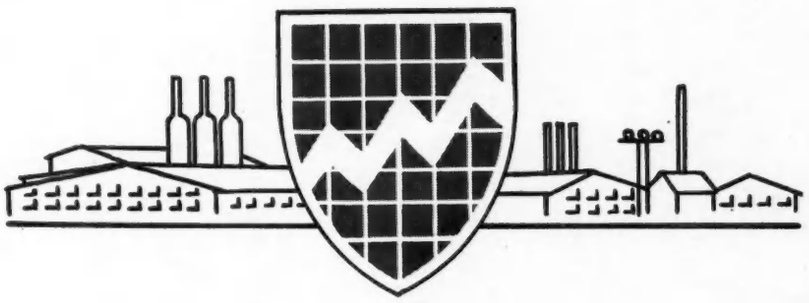
f—Vermont—Certain diesel fuels (such as for stationary engines) are exempt from Use Fuel Tax.

Corrected to March 15, 1951 Copyright 1951

NATIONAL HIGHWAY USERS CONFERENCE, INC., National Press Bldg., Washington, D. C.

SECTION 2

INDUSTRY STATISTICS



ARRANGED in a new easier-to-use format, this year's statistical section contains many new tables including Number of Trucks in Use by Age Groups (average age is 6.9 years) on page 128 and some valuable operating data for both truck and bus owners on page 130. As in past years it also contains a complete file of basic industry data—production, new registrations factory sales—of interest to user and manufacturer alike.

TRUCK DATA

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BUS DATA

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OPERATING DATA

Comparative Intercity Truck Tonnage . 130
Passengers Carried in Buses..... 130

TRUCK PRODUCTION

U. S. TRUCK PRODUCTION by MAKES—1948-1950

(Official Figures Submitted by Manufacturers)

AUTOCAR

G. V. W.	1950	1949	1948
Over 26,000	2,040	1,458	2,823

BROCKWAY

G. V. W.	1950	1949	1948
16,000-19,500	159	183	336
19,501-26,000	386	261	627
Over 26,000	1,966	1,178	1,956
Total	2,511	1,622	2,919

FEDERAL

G. V. W.	1950	1949	1948
10,001-14,000	48	64	1,340
14,001-16,000	222	167	640
16,001-19,500	713	543	592
19,501-26,000	494	669	1,165
Over 26,000	417	206	161
Total	1,884	1,649	3,898

OSHKOSH

G. V. W.	1950	1949	1948
19,501-26,000	58	12	27
Over 26,000	122	192	204
Total	180	204	231

REO

G. V. W.	1950	1949	1948
14,001-16,000	Not	1,198	7,833
16,001-19,500		1,804	2,583
19,501-26,000	ava-	284	420
Over 26,000	ablle	14	58
Total	9,388	3,300	10,894

STUDEBAKER

	1950	1949	1948
	50,323	63,473	67,982

FORD

(U. S. Factory Sales of Trucks)

G. V. W.	1950	1949	1948
5,000 and less	170,472	111,210	110,818
5,001-10,000	62,530	43,358	47,520
10,001-14,000	32,620	24,501	52,551

FORD *continued*

14,001-16,000	58,576	31,528	62,556
16,001-19,500	6,478	4,114	14,446
19,501-26,000	11,628	4,008	10,735
Total	342,204	218,719	298,626

F.W.D.

G. V. W.	1950	1949	1948
14,000-16,000	148	.....	.....
16,001-19,500	197	88	121
19,501-26,000	176	145	385
Over 26,000	191	272	571
Total	712	505	1,077

INTERNATIONAL

G. V. W.	1950	1949	1948
5,000 and less	26,350	18,368	26,486
5,001-10,000	27,380	38,306	41,861
10,001-14,000	14,382	1,718	39,948
14,001-16,000	7,392	33,154	18,945
16,001-19,500	12,072	10,016	19,523
19,501-26,000	14,173	6,526	15,377
Over 26,000	4,721	2,470	4,644
Total	106,420	110,558	166,784

WHITE

	1950	1949	1948
Commercial	13,759	8,707	12,507
Export	879	(1,329)	(1,135)
Canada	1,114	868	549
Bus	143	216	743
Total	15,895	9,791	13,799

WILLYS

	1950	1949	1948
CJ-2A Jeeps	.....	.....	62,861
CJ-3A Jeeps	26,624	31,595	309
4-63 Panel	9	4,809	11,488
4-73 Panel	4,271	.....	.....
4x4-63 Panel	46	.....	.....
2-WD Trucks	5,307	4,139	8,859
4-WD Trucks	1,048	9,430	21,114
4-73WD Trucks	11,601	.....	.....
Total	48,906	49,973	104,631

47 YEARS OF TRUCK AND BUS PRODUCTION*

Truck and Bus Factory Sales in Units and Their Value

Year	Units	Wholesale Value	Average Wholesale Price
1904	700	$1,272,747	$1,818
1905	750	1,330,000	1,773
1906	800	1,440,000	1,800
1907	1,000	1,780,000	1,780
1908	1,500	2,550,000	1,700
1909	3,297	5,333,683	1,618
1910	6,000	9,660,000	1,610
1911	10,681	21,000,000	1,966
1912	22,000	43,000,000	1,954
1913	23,500	44,000,000	1,872
1914	24,900	44,219,096	1,776
1915	74,000	125,800,000	1,700
1916	92,130	161,000,000	1,747
1917	128,157	220,982,668	1,724
1918	227,250	434,168,992	1,910
1919	224,731	371,422,820	1,653
1920	321,789	423,249,410	1,315
1921	148,052	166,070,810	1,122
1922	269,991	226,049,658	837
1923	409,295	308,537,929	754
1924	416,659	318,580,580	765
1925	530,659	458,400,277	864
1926	516,947	452,123,435	876
1927	464,793	420,130,624	904
1928	543,324	437,132,258	804
1929	771,020	566,029,644	734
1930	571,241	389,436,690	682
1931	416,648	282,417,542	630
1932	235,187	136,193,336	579
1933	346,545	188,069,314	537
1934	575,192	320,143,667	557
1935	694,690	379,407,751	546
1936	784,587	482,820,474	580
1937	893,085	534,494,873	598
1938	488,100	334,147,530	685
1939	710,496	494,829,231	696
1940	754,901	587,820,414	752
1941	1,060,820	1,089,799,855	1,008
1942	819,662	1,427,456,801	1,744
1943	699,689	1,451,794,475	2,076
1944	737,524	1,700,928,939	2,306
1945	655,683	1,181,955,532	1,803
1946	940,851	1,043,247,276	1,109
1947	1,239,642	1,708,622,000	1,378
1948	1,376,155	1,858,210,000	1,350
1949	1,134,136	1,407,435,000	1,241
1950	1,337,170	1,747,500,000	1,307
47 Yrs.	21,704,929	23,929,995,331	1,103

*—Automobile Manufacturers Association.

MOTOR TRUCK FACTORY SALES BY G.V.W., 1946-1950*

Total Factory Sales from U. S. Plants

	5,000 lb. and Less		5,001-10,000 lb.		10,001-14,000 lb.		14,001-16,000 lb.		16,001-19,500 lb.		19,501-26,000 lb.		Over 26,000 lb.		Total	
	Units	% of Total	Units	% of Total	Units	% of Total	Units	% of Total	Units	% of Total	Units	% of Total	Units	% of Total	Units	% of Total
1950	627,389	47.1	266,043	20.0	89,156	6.7	219,918	16.5	53,484	4.0	47,022	3.5	29,235	2.2	1,332,247	100
1949	513,148	45.5	279,359	24.8	84,605	7.5	173,137	15.3	37,227	3.3	23,798	2.1	17,351	1.5	1,128,625	100
1948	485,088	35.6	267,720	19.6	182,500	13.4	280,535	20.6	76,711	5.6	50,023	3.7	21,279	1.5	1,363,856	100
1947	375,445	30.8	182,490	14.9	265,989	21.8	285,589	23.4	41,606	3.4	42,761	3.5	26,754	2.2	1,220,634	100
1946	330,730	35.5	88,235	9.5	247,912	26.6	200,574	21.6	24,162	2.6	25,252	2.7	13,874	1.5	930,739	100
Factory Sales for Domestic Use																
1950	579,760	49.0	243,980	20.6	75,993	6.4	169,949	14.4	42,758	3.6	42,144	3.6	27,820	2.4	1,182,402	100
1949	469,255	47.0	258,036	25.9	70,969	7.1	135,604	13.6	28,396	2.8	19,780	2.0	15,569	1.6	997,608	100
1948	420,531	36.2	244,894	21.1	150,340	12.9	217,695	18.7	64,297	5.5	45,120	3.9	19,712	1.7	1,162,589	100
1947	314,662	32.4	165,707	17.0	197,275	20.3	198,705	20.4	34,660	3.6	36,723	3.8	23,873	2.5	971,605	100
1946	291,827	39.2	78,925	10.6	182,000	24.4	137,054	18.4	19,293	2.6	22,474	3.0	13,058	1.8	744,631	100

*—Automobile Manufacturers Association.

1951 DOMESTIC TRUCK FACTORY SALES BY G.V.W.*

	5,000 and Less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	50,435	21,029	6,476	16,957	5,528	5,657	3,180	109,262
February	43,207	16,940	6,663	14,775	4,680	5,323	3,265	94,853
Total—Two Months, 1951	93,642	37,969	13,139	31,732	10,208	10,980	6,445	204,115
Total—Two Months, 1950	78,881	36,402	12,836	24,832	5,400	3,973	2,989	165,313

* Automobile Manufacturers Association.

U. S. TRUCK PRODUCTION*

By Months, by Years

	1950	1949	1948
January	93,319	104,937	100,582
February	89,971	102,569	108,155
March	110,845	115,728	142,036
April	103,850	106,494	130,019
May	120,963	87,122	113,077
June	135,329	98,991	118,640
July	111,238	95,400	117,792
August	134,884	100,352	112,531
September	105,592	91,584	112,367
October	108,844	85,201	108,048
November	98,538	73,549	104,382
December	118,890	66,698	108,526
Total	1,332,263	1,128,625	1,376,155

	1947	1946	1945
January	101,091	45,500	67,394
February	106,345	35,258	64,510
March	119,655	38,193	75,057
April	108,634	81,719	67,579
May	98,283	76,162	71,267
June	93,248	60,812	66,456
July	99,561	88,453	54,563
August	86,251	98,948	44,779
September	112,327	96,515	31,572
October	120,032	108,141	42,225
November	89,027	102,075	53,634
December	103,188	109,054	29,542
Total	1,239,642	940,830	668,578

	1944	1943	1942
January	58,827	49,612	93,181
February	55,916	47,546	77,289
March	56,695	55,979	89,537
April	56,071	56,173	64,157
May	57,287	55,190	61,064
June	61,479	56,516	73,732
July	61,921	60,285	63,885
August	69,015	61,321	59,526
September	65,605	57,582	59,857
October	64,723	60,160	56,743
November	69,497	57,168	31,628
December	72,165	59,583	54,685
Total	749,201	677,115	805,264

*—W.P.B. records for 1942 through 1945. Automobile Manufacturers Association 1946 through 1950.

FACTORY SALES OF SPECIAL TYPES OF VEHICLES*

Vehicle Type	Units
1950	
Station Wagons(1)	123,028
Motor Coaches(2)	4,907
School Bus Chassis	19,952
Trucks with Cab-Over-Engine	22,370
Trucks with Diesel Engines	13,899
Trucks with 6 Wheels, 3 Axles	16,074
Multi-Stop Trucks	21,667
Ambulances and Funeral Vehicles	911
1949	
Station Wagons(1)	102,040
Motor Coaches(2)	5,511
School Bus Chassis	13,896
Trucks with Cab-Over-Engine	13,325
Trucks with Diesel Engines	6,047
Trucks with 6 Wheels, 3 Axles	4,122
Multi-Stop Trucks	19,479
Ambulances and Funeral Vehicles	2,853
1948	
Station Wagons(1)	110,312
Motor Coaches(2)	12,299
School Bus Chassis	23,755
Trucks with Cab-Over-Engine	31,047
Trucks with Diesel Engines	5,698
Trucks with 6 Wheels, 3 Axles	5,764
Multi-Stop Trucks	21,380
Ambulances and Funeral Vehicles	4,727
1947	
Station Wagons(1)	81,973
Motor Coaches(2)	19,110
School Bus Chassis	30,431
Trucks with Cab-Over-Engine	32,603
Trucks with Diesel Engines	6,209
Trucks with 6 Wheels, 3 Axles	
Multi-Stop Trucks	15,876
Ambulances and Funeral Vehicles	3,746

(1)—Includes those built on both passenger and truck chassis.
(2)—Does not include non-integral school buses.
*—Automobile Manufacturers Association.

NEW REGISTRATIONS

NEW TRUCK REGISTRATIONS*

by MAKES, by G.V.W.—1947-1949

	Year	5,000 lb. and less	5,001–10,000	10,001–14,000	14,001–16,000	16,001–19,500	19,501–26,000	Over 26,000	Total
AUTOCAR	1950	.....	.....	.....	.....	.....	.....	2,072	2,072
	1949	.....	.....	.....	.....	.....	.....	1,655	1,655
	1948	.....	.....	.....	.....	.....	.....	2,770	2,770
BROCKWAY	1950	.....	.....	.....	17	168	422	1,777	2,384
	1949	.....	.....	.....	166	128	631	701	1,626
	1948	.....	.....	.....	370	239	1,606	743	2,958
CHEVROLET	1950	228,865	89,000	26,667	69,964	.....	.....	.....	414,496
	1949	179,489	89,622	26,890	49,518	.....	.....	.....	345,519
	1948	124,669	72,143	32,651	72,756	.....	.....	.....	302,219
CROSLEY	1950	422	.....	.....	.....	.....	.....	.....	422
	1949	871	.....	.....	.....	.....	.....	.....	871
	1948	2,411	.....	.....	.....	.....	.....	.....	2,411
DIAMOND T	1950	.....	611	1,267	668	1,490	1,164	475	5,675
	1949	.....	1,025	1,507	1,217	521	553	349	5,172
	1948	.....	1,115	3,779	3,530	1,126	704	403	10,657
DIVCO	1950	.....	4,121	188	.....	.....	.....	.....	4,309
	1949	.....	3,168	409	.....	.....	.....	.....	3,577
	1948	.....	4,678	940	.....	.....	.....	.....	5,618
DODGE	1950	47,344	25,577	5,003	13,012	7,554	931	295	99,716
	1949	52,866	32,398	50	20,945	9,482	1,212	3	116,956
	1948	42,097	28,710	978	29,777	11,377	1,492	.....	114,431
FEDERAL	1950	.....	.....	31	370	331	629	108	1,469
	1949	.....	.....	60	467	266	357	75	1,225
	1948	.....	.....	625	1,981	396	821	203	4,026
FORD	1950	164,027	58,659	31,458	45,997	6,541	9,230	.....	315,912
	1949	99,044	35,909	30,387	25,901	6,795	4,143	.....	202,179
	1948	79,616	50,287	51,140	31,047	10,717	2,922	.....	225,729
F.W.D.	1950	.....	.....	.....	.....	29	268	26	323
	1949	.....	.....	.....	.....	27	227	83	337
	1948	.....	.....	.....	.....	64	609	138	811
G.M.C.	1950	42,152	19,741	9,877	11,549	5,650	5,720	2,511	97,200
	1949	34,431	18,616	8,966	8,375	5,245	2,048	2,726	80,407
	1948	20,962	14,316	15,339	9,522	8,507	3,175	3,036	74,857
INTERNATIONAL	1950	25,670	21,018	3,152	22,087	12,703	10,498	2,710	97,818
	1949	20,603	25,647	575	26,100	9,540	7,079	1,620	91,164
	1948	25,000	29,306	30,749	13,078	13,474	10,207	3,389	125,203
KENWORTH	1950	.....	.....	.....	.....	.....	50	623	673
	1949	.....	.....	.....	.....	.....	.....	392	392
	1948	.....	.....	.....	.....	.....	.....	478	478
MACK	1950	.....	.....	.....	273	832	1,737	7,066	9,908
	1949	.....	.....	.....	654	741	1,826	3,645	6,866
	1948	.....	.....	.....	960	1,274	4,202	3,359	9,795
PONTIAC	1950	1,362	.....	.....	.....	.....	.....	.....	1,362
	1949	775	.....	.....	.....	.....	.....	.....	775
	1948	.....	.....	.....	.....	.....	.....	.....	.....
REO	1950	.....	10	.....	1,233	1,042	1,559	32	3,876
	1949	.....	.....	.....	2,281	1,304	327	91	4,003
	1948	.....	.....	3,953	4,684	1,404	246	486	10,773
STERLING	1950	.....	.....	.....	.....	.....	63	291	354
	1949	.....	.....	.....	.....	.....	16	213	229
	1948	.....	.....	.....	.....	.....	14	397	411
STUDEBAKER	1950	26,649	8,772	6,309	4,151	.....	.....	.....	45,881
	1949	25,159	14,788	9,279	5,873	.....	.....	.....	55,099
	1948	18,651	10,979	16,638	4,389	.....	.....	.....	50,657
WHITE	1950	.....	.....	.....	551	1,235	8,135	2,129	12,050
	1949	.....	.....	.....	543	1,305	5,173	1,297	8,318
	1948	.....	.....	.....	1,005	423	8,701	1,474	11,603
WILLYS-JEEP	1950	8,841	.....	.....	.....	.....	.....	.....	8,841
	1949	14,472	.....	.....	.....	.....	.....	.....	14,472
	1948	48,644	.....	.....	.....	.....	.....	.....	48,644
WILLYS-TRUCK	1950	10,875	4,924	.....	.....	.....	.....	.....	15,799
	1949	9,284	9,009	.....	.....	.....	.....	.....	18,293
	1948	16,766	11,074	.....	.....	.....	.....	.....	27,840
ALL OTHERS	1950	364	32	66	17	31	289	968	1,767
	1949	1,322	111	259	24	222	239	649	2,826
	1948	858	457	162	3	263	408	1,132	3,283
TOTAL	1950	556,571	232,465	84,018	169,869	37,606	40,695	21,083	1,142,307
	1949	438,316	230,293	78,382	142,064	35,576	23,631	13,499	961,961
	1948	379,674	223,065	156,954	173,102	49,264	35,107	18,008	1,035,174
	1947	278,251	153,643	220,801	152,549	25,329	29,076	19,483	879,132
% OF TOTAL	1950	48.72%	20.35%	7.36%	14.87%	3.29%	3.56%	1.85%	100.00%
	1949	45.56%	23.94%	8.15%	14.77%	3.70%	2.48%	1.40%	100.00%
	1948	36.68%	21.55%	15.16%	16.72%	4.76%	3.39%	1.74%	100.00%
	1947	31.65%	17.48%	25.12%	17.35%	2.88%	3.30%	2.22%	100.00%

* Based on data from R. L. Polk & Co.

1950 NEW TRUCK REGISTRATIONS *by Makes by States**

STATE	Auto-car	Brock-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Ken-worth	Mack	Pon-tiac	Reo	Ster-ling	Studе-baker	White	Willys	All Others	Total
Alabama	6	.....	9646	34	20	1931	9	7624	.....	2214	1694	.....	201	15	25	.....	1033	225	494	16	25,187
Arizona	2	1	2542	8	15	595	8	1893	3	758	447	7	17	12	9	6	339	35	270	15	6,990
Arkansas	2	.....	9468	27	2	2036	2	6884	1	2359	1515	.....	38	22	47	.....	1172	57	446	10	24,098
California	153	13	24451	352	476	6237	36	17533	49	6752	4283	218	290	56	148	90	3153	530	1543	324	66,685
Colorado	1	.....	6225	51	50	1097	9	3734	7	1208	1217	25	58	5	33	.....	763	59	513	47	15,101
Connecticut	50	64	2936	97	117	892	91	2213	3	696	855	.....	234	20	52	9	372	160	311	27	9,199
Delaware	11	10	1155	16	4	229	.....	920	.....	225	281	.....	8	14	5	.....	108	21	57	12	3,076
District of Columbia	15	6	1207	23	70	267	18	780	.....	274	253	.....	36	8	23	.....	40	30	54	5	3,109
Florida	11	2	8325	127	81	2514	13	7200	.....	1634	1547	.....	352	20	114	1	1401	224	1035	85	24,698
Georgia	3	4	12536	44	26	2842	31	10590	1	2475	2287	1	220	14	94	1	1547	268	460	20	33,464
Idaho	.....	.....	2926	67	4	556	12	1878	3	1045	765	51	39	5	30	4	471	40	462	29	8,387
Illinois	60	7	18655	628	212	4789	27	13279	6	3669	5645	.....	289	59	155	4	1793	640	667	97	50,681
Indiana	16	4	10668	148	103	2624	35	9702	6	2076	3831	.....	132	43	154	.....	1654	636	558	63	32,453
Iowa	2	.....	10513	119	59	2208	3	8240	1	1573	3247	.....	103	23	62	.....	1035	180	337	17	27,722
Kansas	.....	.....	8660	65	27	1361	8	6115	2	1753	2260	.....	20	31	54	.....	770	80	367	6	21,599
Kentucky	4	.....	9566	82	48	1621	19	6834	.....	2452	2030	.....	41	35	31	1	827	93	816	7	24,307
Louisiana	8	.....	7386	59	8	1471	4	6613	2	1976	1380	.....	44	16	26	.....	1038	101	421	20	20,573
Maine	13	21	2562	7	6	594	16	1510	.....	771	786	.....	90	18	10	1	332	53	233	7	7,030
Maryland	20	82	4421	48	88	1306	63	3601	1	895	1126	.....	155	11	56	4	325	175	155	15	12,547
Massachusetts	241	159	5583	191	158	2128	50	4401	3	1332	1668	.....	445	66	155	87	808	440	333	33	18,279
Michigan	31	1	17880	135	339	4294	137	16142	2	3149	2892	27	241	32	286	.....	1097	278	451	27	47,241
Minnesota	8	.....	9481	142	106	2153	15	7568	14	1627	3012	36	100	30	47	.....	1621	162	391	41	26,554
Mississippi	2	.....	8309	14	1	1587	4	6077	1	2510	1475	.....	39	22	17	.....	908	64	385	9	21,424
Missouri	8	.....	15978	92	126	3063	2	10199	2	3609	2899	3	149	22	75	.....	1398	415	508	38	39,586
Montana	.....	.....	3761	48	3	697	11	2315	3	828	1135	25	11	8	36	.....	510	19	682	10	10,102
Nebraska	.....	.....	6800	203	19	1109	3	5192	11	1427	1912	50	32	11	36	.....	714	123	473	15	18,138
Nevada	.....	.....	592	4	.....	133	.....	429	.....	293	109	.....	.....	3	.....	.....	97	2	115	4	1,781
New Hampshire	13	11	1128	16	11	455	4	885	1	351	376	.....	106	6	42	1	160	23	139	6	3,714
New Jersey	182	347	9076	263	286	2590	93	7002	19	2483	2370	.....	652	101	101	17	820	498	608	32	27,549
New Mexico	1	.....	3808	2	2	605	9	1954	2	1054	472	5	40	5	14	.....	538	26	248	14	8,797
New York	475	844	18066	876	376	7000	303	12269	56	4793	5744	1	1637	105	508	58	1789	1274	1296	327	57,800
North Carolina	88	4	11875	49	63	2487	24	9704	.....	2293	2254	.....	646	28	35	7	1382	343	442	200	31,904
North Dakota	.....	.....	2541	28	3	521	5	2311	.....	510	1117	.....	8	3	5	.....	345	2	226	7	7,632
Ohio	114	14	18208	337	436	4609	120	15074	13	3853	5297	.....	588	107	273	.....	1678	1235	751	34	52,741
Oklahoma	1	.....	10579	17	62	2214	.....	8002	16	2373	2132	2	52	22	61	.....	1042	279	472	15	27,332
Oregon	23	.....	4942	98	39	1351	12	3738	7	1686	1505	69	167	3	22	8	597	106	767	83	15,223
Pennsylvania	258	705	19345	455	308	6963	127	15873	4	4862	6141	.....	1197	135	489	37	2045	1235	1179	115	61,473
Rhode Island	65	6	1117	27	58	467	4	1022	.....	223	412	.....	86	12	20	5	137	61	98	5	3,826
South Carolina	7	.....	5633	9	24	1176	1	4078	4	1234	709	.....	159	15	9	.....	584	109	158	14	13,922
South Dakota	.....	.....	2510	74	9	606	3	1948	4	504	1074	21	2	8	11	.....	328	18	391	11	7,522
Tennessee	13	5	12151	99	41	3253	23	8675	4	3554	2604	2	231	20	76	2	1585	357	556	28	33,279
Texas	73	1	37695	194	135	7484	24	29401	5	10016	6810	18	323	68	122	.....	4116	691	1819	58	99,053
Utah	.....	.....	2546	64	8	343	5	1427	3	728	557	22	46	12	22	.....	215	41	190	34	6,263
Vermont	1	12	936	4	5	351	2	555	.....	368	387	.....	21	2	15	.....	105	10	213	14	3,001
Virginia	55	45	9194	35	82	2130	29	7269	2	1938	1795	.....	243	14	48	.....	827	32	459	44	24,541
Washington	5	.....	5263	60	64	1403	4	3708	1	1520	1554	83	151	18	54	6	596	108	524	79	15,201
West Virginia	4	16	4162	18	23	1082	15	3238	3	1011	725	.....	79	17	28	.....	351	66	703	7	11,559
Wisconsin	9	.....	9196	97	101	1858	28	7222	54	1680	2932	.....	88	37	136	5	998	221	380	58	25,076
Wyoming	.....	.....	2295	22	4	436	8	1271	4	608	500	6	6	3	7	.....	237	14	504	7	5,932
Total—1950	2072	2384	414496	5675	4309	99716	1469	315912	323	97200	97818	673	9908	1362	3876	354	45881	12050	24640	2189	1,142,307
Total—1949	1655	1628	345519	5172	3577	116956	1225	202179	337	80407	91164	396	6862	775	4003	229	55099	8343	32765	3697	961,961

* Data from R. L. Polk & Co.

NEW TRUCK REGISTRATIONS

*by Makes, by Years**

	1950	1949	1948	1947	1946	1941
Autocar	2,072	1,655	2,770	4,334	4,755	2,510
Brockway	2,384	1,628	2,958	4,255	3,683	2,294
Chevrolet	414,496	345,519	302,219	235,803	171,618	212,797
Crosley	422	871	2,411	.....	.....	.....
Diamond T	5,675	5,172	10,657	10,475	5,093	6,077
Divco	4,309	3,577	5,618	4,893	3,734	2,308
Dodge	99,716	116,956	114,431	128,738	96,490	62,925
Federal	1,469	1,225	4,026	6,020	4,557	1,611
Ford	315,912	202,179	225,729	186,414	131,489	174,024
F. W. D.	323	337	811	1,195	585	280
G. M. C.	97,200	80,407	74,857	49,187	25,645	11,703
Hudson	.....	.....	117	2,534	2,543	736
International	97,818	91,164	125,203	113,151	78,392	92,482
Kenworth	673	392	478	487	.....	.....
Mack	9,908	6,866	9,795	10,917	4,687	9,468
Oshkosh	.....	†	173	245	.....	.....
Plymouth	.....	.....	.....	.....	28	7,732
Pontiac	1,362	775	.....	.....	.....	.....
Reo	3,876	4,003	10,773	12,911	10,489	1,543
Sterling	354	229	411	576	510	400
Studebaker	45,881	55,099	50,657	41,861	25,360	5,078
Ward La France	.....	†	271	509	.....	.....
White	12,050	8,318	11,603	13,086	10,117	9,271
Willys—Jeep	8,841	14,472	48,644	47,612	42,135	2,031
Willys—Truck	15,799	18,293	27,940	2,207	.....	
All Others	1,767	2,826	2,722	3,724	3,359	1,429
Total	1,142,307	961,961	1,035,174	879,132	625,249	640,697

†—Included with "All Others."
*—Data from R. L. Polk & Co. No data were collected for the last 9 months of 1942 and the war years of 1943, 1944 and 1945.

NEW TRUCK REGISTRATIONS

*by Years**

Year	Units
1927	327,965
1928	341,123
1929	527,057
1930	410,699
1931	313,894
1932	180,413
1933	245,899
1934	403,886
1935	510,663
1936	611,644
1937	618,249
1938	365,349
1939	486,748
1940	559,150
1941	640,697
1942	77,422
1943	62,489
1944	121,289
1945	350,932
1946	625,249
1947	879,132
1948	1,035,174
1949	961,961
1950	1,142,307

Source: 1926 through March, 1942, and 1946 and later years compiled by R. L. Polk & Co. April, 1942 through July, 1945 data are W.P.B. and O.D.T. and represent certificates of transfer issued to civilian users.

NEW TRUCK REGISTRATIONS BY MAKES BY STATES*

for January, 1951

STATE	Auto-car	Brock-way	Chev-rolet	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Ken-worth	Mack	Peter-bilt	Reo	Ster-ling	Stude-baker	White	Willys	All Others	Total
Alabama			747	2		221	1	478		198	152		19		4		93	24	40	5	1,994
Arizona			153	1	1	84		108		56	43	1	3				26	4	13	3	496
Arkansas			896	3		220		590		299	153		1		6		98	11	38	2	2,315
California	22	1	2049	37	69	757	1	1494	6	817	415	22	44	17	10	22	304	62	152	16	6,317
Colorado	1		410	2	5	132	1	306		105	118	1	8		8		41	6	48	1	1,191
Connecticut	3	3	207	11	16	107	3	130		55	55		19		5		18	7	20	5	664
Delaware	1		108	1		34		84		29	21				2		10	2	4	4	300
District of Columbia		1	156	4	3	28		40		41	49		5		1		1	2	7	1	337
Florida	6		607	17	9	288		442	1	165	132		28		17		108	25	114	8	1,965
Georgia		1	1005	1	2	336	1	947		254	225		28		15		168	19	53	4	3,057
Idaho			108	1	1	64		116		88	44	4	2		2		24	8	33		493
Illinois	1	2	953	53	24	474	1	740	2	280	321		20		16		86	45	70	7	3,095
Indiana			760	10	1	327	1	552		155	290		14		12		119	56	43	4	2,344
Iowa	1		632	8	11	214		505		147	290		15		3		65	13	26	2	1,932
Kansas			477	1		130	1	309		127	152				3		47	12	33	1	1,293
Kentucky	1		649	4		162	1	372		188	192		6		4		65	7	60	3	1,714
Louisiana	1		281	4		62		300	1	90	87						39	5	20		870
Maine	2	2	183	1		58		128		65	62		21				16	9	11	2	560
Maryland	3	12	290		1	133	7	198		101	93		15		10		20	4	16		903
Massachusetts	13	16	350	13	16	160	11	259		104	117		34		20	8	32	36	30	2	1,219
Michigan	9		1308	6	6	411	10	1227		265	306		24		37		63	59	52	5	3,788
Minnesota			404	6	7	191		336	2	154	232		4		4		47	3	41	3	1,434
Mississippi			587	1		168		454		210	135		14				60	8	42	1	1,680
Missouri			1058	8	8	382		699		328	251		5		5		94	47	48	4	2,937
Montana			157	5		43		80		55	57	1	2		2		26	1	58		487
Nebraska			554	12	1	109		307	1	128	194	3	6		3		64	14	45	1	1,442
Nevada			51	1		26		35	1	40	24						5		10		193
New Hampshire	2	1	74		1	42		64		30	27		10		1		9	1	9	1	272
New Jersey	23	49	680	13	49	323	15	394		199	159		53		8	1	49	48	69	4	2,136
New Mexico			209			52		124		80	34	2	1				31		14	1	549
New York	51	97	1617	83	46	815	19	913	6	465	501		218		82	7	126	188	185	33	5,452
North Carolina	9	1	977	2	4	262		693		267	251		64		8		132	37	42	26	2,775
North Dakota			145	2	1	62	1	115		41	89				1		27		19	1	504
Ohio	13	3	1601	23	33	567	12	1047	1	363	521		41		30		132	162	110	29	4,688
Oklahoma			490		3	126		296	10	120	128	2	3		5		35	15	28	1	1,282
Oregon			178	2	1	110	1	141		83	49	1	11	2			20	9	44	4	656
Pennsylvania	11	65	1011	28	12	643	8	743		328	443		110		24	7	102	88	113	9	3,743
Rhode Island	4	3	96	3	4	42		73		18	35		6		1		9	7	9	3	313
South Carolina	2		555			149		324		142	96		15				51	13	13	6	1,366
South Dakota			186	1	2	78		123		55	116				1		44	3	43		652
Tennessee			934	1	8	310	5	557		301	183		29		4		81	20	40	4	2,477
Texas	4		3282	18	21	1000	1	2534		1250	608		31		10		401	87	212	6	9,465
Utah			157		12	24		107		64	47	4	4	2	1		13	9	13		457
Vermont			61	1		21	1	41		11	28		9		3		5		15		197
Virginia	3	4	653	1	5	204	2	433		163	160		31		6		49	27	44	1	1,788
Washington			292	5	12	169		218		119	118	33	7	1	2	1	40	19	48	11	1,098
West Virginia		8	324	2	4	138	5	199		124	80		11		5		34	17	84	2	1,035
Wisconsin	3		501	6	9	232	3	420	7	160	215		10		16	1	51	35	50	7	1,726
Wyoming			151	3		42		104		42	43		4				21	5	28		443
Total—January, 1951	189	267	29314	407	408	10730	112	20899	38	8967	8121	74	1005	22	397	45	3195	1277	2357	234	88,058
Total—January, 1950	113	154	22763	411	289	8305	101	17756	40	5067	5883	32	821		258	23	3497	633	1435	364	67,925

* Data from R. L. Polk & Co.

TRUCKS IN USE BY MAKES AND BY MODEL YEAR*

(As of July 1, 1950)

Model Year	Auto-car	Brock-way	Chev-rolet	Cros-ley	Dia-mond T	Divco	Dodge	Fed-eral	Ford	FWD	GMC	Inter-na-tional	Ken-worth	Mack	Pon-tiac	Reo	Ster-ling	Stude-baker	White	Willys	All Others	Total July 1, 1950
1950	1,063	1,107	195,710	326	2,886	1,967	41,949	548	156,631	79	51,243	42,954	215	4,947	1,171	1,605	201	22,989	5,915	12,704	3,700	549,909
1949	1,468	1,472	324,270	679	4,528	3,489	108,830	915	199,326	215	71,118	95,765	306	6,481	1,506	3,347	192	74,914	7,240	27,590	8,955	942,603
1948	2,653	2,707	294,066	2,647	10,402	5,761	111,363	3,243	226,521	460	75,091	119,530	403	9,044		11,058	400	29,442	10,854	58,792	10,946	983,383
1947	4,426	3,972	205,021	1,817	10,272	5,898	119,708	5,284	171,563	1,132	47,852	115,055	481	12,070		10,014	578	39,799	13,113	32,502	10,148	810,705
1946	4,524	3,516	251,558	58	5,023	4,178	111,345	3,736	184,608	729	25,504	84,401	339	4,071		8,950	557	25,681	9,583	26,355	8,019	742,735
1945	2,211	1,968	32,860	7	3,068	1,752	19,469	1,726	40,879	333	11,839	26,923	321	4,508		2,585	405	3,194	6,280	2,649	3,042	166,019
1944	1,165	1,009	15,180	1	1,483	307	6,875	739	16,593	139	6,015	14,001	104	2,684		428	249	1,615	2,941	1,117	1,325	73,970
1943	221	91	2,544	7	202	94	1,971	301	7,421	28	2,400	3,332	31	403		140	54	577	1,106	1,974	735	23,632
1942	788	283	87,171	65	1,436	591	38,027	762	69,238	166	22,489	26,620	68	2,492		1,056	222	2,095	3,188	4,418	3,122	264,297
1941	2,287	1,937	185,793	87	4,876	2,578	73,394	1,027	157,769	317	39,529	77,203	160	7,836		1,376	395	5,141	7,389	2,752	14,418	586,264
1940	1,219	1,123	146,834	18	4,327	1,697	46,072	839	114,647	163	28,197	57,560	125	5,397		336	241	1,507	3,343	2,532	13,557	429,734
1939	1,159	1,146	110,550	9	3,208	1,455	38,264	649	82,766	245	19,441	45,872	96	4,396		604	234	1,887	2,397	1,127	10,606	326,111
1938	765	747	75,025	12	2,424	967	23,680	525	62,198	147	11,239	36,051	50	2,546		1,578	128	1,284	1,877	1,488	8,360	231,091
1937	969	814	120,484	12	3,924	589	38,116	715	109,833	222	23,864	37,371	90	2,852		1,818	195	3,076	2,847	1,027	16,127	364,745
1936	603	818	98,666	8	3,386	463	45,578	806	103,509	211	11,307	33,938	135	1,774		1,157	162	1,086	2,361	1,033	8,550	315,551
1935	356	320	54,173	2	1,850	157	21,880	443	75,083	128	2,430	18,996	56	774		1,098	69	542	901	708	4,540	184,506
1934	363	231	41,445	1	1,290	113	12,184	376	50,036	69	1,594	7,442	41	708		757	44	361	924	93	3,241	121,313
Before '34	1,029	521	69,260	8	1,960	234	14,975	747	239,123	295	3,687	14,889	180	6,395		3,391	549	2,336	2,744	1,135	24,858	408,316
Unknown	130	149	10,929	33	481	198	4,035	242	13,586	34	2,473	5,378	4	448	1,132	347	21	755	667	786	10,325	52,153
Total	27,399	23,931	2,341,539	5,797	67,024	32,487	877,714	23,623	2,061,330	5,112	457,312	863,281	3,205	79,626	3,809	51,645	4,896	218,281	85,670	178,782	164,574	7,577,037

* Data from Reuben H. Donnelley Corp.

TOTAL REGISTRATIONS

TOTAL TRUCK REGISTRATIONS BY STATES

	1950	1949	1948	1947	1946	1945
Alabama	151,700	138,062	127,065	108,251	86,441	72,141
Arizona	58,300	52,978	48,647	42,295	35,044	29,462
Arkansas	140,388	121,413	125,161	112,157	94,450	78,902
California	481,809	415,958	529,492	487,929†	406,729†	355,282†
Colorado	131,299	124,709	115,006	101,953	90,543	76,837
Connecticut	85,903	77,716	75,691	76,432	75,266	58,861
Delaware	18,599	17,682	17,557	15,913	14,296	13,162
District of Columbia	18,372	18,389	18,389	15,588	14,495	13,879
Florida	175,240	165,307	156,639	138,373	120,525	96,384
Georgia	197,871	178,479	167,525	150,108	126,403	104,650
Idaho	71,022	64,137	59,644	50,877	40,000	38,352
Illinois	350,000	336,174	315,988	282,125	253,385	224,929
Indiana	244,258	206,154	227,480	197,416	163,859	137,809
Iowa	179,835	168,303	150,973	133,868	115,984	102,176
Kansas	203,722	195,449	183,733	167,366	147,296	129,353
Kentucky	169,248	154,941	137,711	118,461	101,541	82,017
Louisiana	151,749	140,001	122,935	105,958	98,117	78,256
Maine	64,195	59,894	62,210	61,001	56,769	49,891
Maryland	93,186	92,200	90,935	82,611	81,649	65,090
Massachusetts	165,850	153,208	151,609	144,113	131,071	111,417
Michigan	294,825	270,309	258,689	222,560	194,546	167,677
Minnesota	188,990	182,532	163,756	148,644	130,946	115,906
Mississippi	139,442	123,954	117,537	99,390	95,536	68,988
Missouri	257,000	245,458	227,205	209,997	188,394	157,084
Montana	80,333	76,476	70,391	63,871	54,947	48,260
Nebraska	125,447	119,473	105,750	98,296	87,121	75,554
Nevada	16,023	14,611	13,417	12,595	10,778	9,193
New Hampshire	30,953	36,214	31,623	35,663	28,872	23,483
New Jersey	220,085	199,920	199,260	186,794	167,506	149,000
New Mexico	59,597	52,564	45,696	41,062	35,179	29,640
New York	449,158	493,868	498,125	425,323	370,709	354,052
North Carolina	201,881	177,742	167,824	147,703	123,748	97,500
North Dakota	81,967	77,804	68,919	60,777	53,868	49,262
Ohio	327,359	304,801	296,296	270,284	242,603	196,810
Oklahoma	201,160	183,435	162,941	143,078	128,124	109,896
Oregon	130,979	123,897	115,648	115,845*	99,025	82,408
Pennsylvania	460,747	452,867	416,551	407,591	342,172	304,972
Rhode Island	30,828	30,181	29,662	28,413	26,959	22,607
South Carolina	109,367	100,633	91,849	85,376	64,158	48,047
South Dakota	70,888	66,656	60,163	50,545	42,163	37,149
Tennessee	163,946	153,177	139,020	124,826	99,517	77,134
Texas	611,176	549,520	526,000	437,706	379,158	307,655
Utah	46,117	42,308	39,637	37,148	31,267	28,748
Vermont	14,911	15,023	15,355	14,818	13,570	11,667
Virginia	159,413	153,616	150,633	132,996	116,084	94,286
Washington	155,000	152,980	145,787	133,102	117,173	103,762
West Virginia	101,361	96,831	86,217	76,940	66,612	55,512
Wisconsin	221,368	210,069	196,503	181,443	160,940	142,240
Wyoming	38,639	35,358	31,709	27,341	24,105	21,436
Total	8,141,506	7,615,431	7,356,553	6,612,922	5,749,643	4,908,778

†—Includes light commercial vehicles registered as passenger cars.
*—Includes trailers for 1947 and all previous years.
‡—Large increase due to change in classification, of trucks previously registered as passenger cars.

TOTAL U. S. TRUCK REGISTRATIONS

Year	Units	% Gain
1915	136,000	89
1916	215,000	58
1917	326,000	52
1918	525,000	61
1919	794,372	51
1920	1,006,082	27
1921	1,117,100	11
1922	1,375,725	23
1923	1,612,569	17
1924	2,134,724	32
1925	2,440,854	14
1926	2,764,222	13
1927	2,914,019	5
1928	3,113,999	7
1929	3,379,854	8
1930	3,486,019	3
1931	3,466,571	− 0.6
1932	3,229,315	− 0.7
1933	3,227,357	− 0.8
1934	3,409,335	5.6
1935	3,655,705	7.1
1936	3,981,755	9.1
1937	4,107,244	3.1
1938	4,210,022	2.5
1939	4,419,893	5.0
1940	4,604,722	4.2
1941	4,859,662	5.5
1942	4,644,209	− 4.4
1943	4,549,882	− 2.0
1944	4,516,157	− 0.7
1945	4,908,778	8.8
1946	5,749,643	17.1
1947	6,612,922	15.0
1948	7,356,553	11.2
1949	7,615,431	3.5
1950	8,141,506	6.9

Truck Dealers, Wholesalers, Independent Repair Shops *

(As of January of Each Year.)

	Wholesalers	Total Truck Dealers	Independent Repair Shops
1945	6,217	26,370	41,193
1946	6,612	27,159	42,702
1947	7,328	29,397	49,485
1948	7,982	25,998†	55,694
1949	8,338	27,574	59,908
1950	8,567	28,307	63,714
1951	8,687	30,297	71,199

†—Reduction in truck dealers due to discontinuance of Plymouth truck production.
*—Trade List Department, Chilton Company.

NUMBER AND PER CENT OF TRUCKS IN USE, BY AGE GROUPS†

Age in Years	1950 Units	1950 % of Total Simple	1950 % of Total Cumul.	1949 Units	1949 % of Total Simple	1949 % of Total Cumul.	1948 Units	1948 % of Total Simple	1948 % of Total Cumul.	1947 Units	1947 % of Total Simple	1947 % of Total Cumul.
Under 1	549,909	7.31	7.31	468,471	6.70	6.70	525,189	8.06	8.06	366,847	6.27	6.27
1– 2	942,603	12.53	19.84	983,653	14.06	20.76	832,635	12.79	20.85	785,853	13.44	19.71
2– 3	983,383	13.07	32.91	824,162	11.78	32.54	769,516	11.82	32.67	188,901	3.23	22.94
3– 4	810,705	10.77	43.68	757,071	10.82	43.36	185,614	2.85	35.52	89,542	1.53	24.47
4– 5	742,735	9.87	53.55	173,416	2.48	45.84	85,481	1.31	36.83	25,020	.43	24.90
5– 6	166,019	2.21	55.76	78,436	1.12	46.96	26,456	.41	37.24	310,574	5.31	30.21
6– 7	73,970	.98	56.74	24,653	.35	47.31	297,128	4.56	41.80	690,221	11.80	42.01
7– 8	23,632	.31	57.05	279,870	4.00	51.31	661,726	10.16	51.96	511,994	8.76	50.77
8– 9	264,297	3.51	60.56	629,246	8.99	60.30	490,969	7.54	59.50	405,418	6.93	57.70
9–10	586,264	7.79	68.35	459,529	6.57	66.87	385,731	5.92	65.42	302,356	5.17	62.87
10–11	429,734	5.71	74.06	358,675	5.13	72.00	285,537	4.38	69.80	496,104	8.48	71.35
11–12	326,111	4.33	78.39	261,282	3.73	75.73	461,843	7.09	76.89	451,660	7.72	79.07
12–13	231,091	3.07	81.46	419,275	5.99	81.72	418,478	6.43	83.32	281,566	4.82	83.39
13–14	364,745	4.85	86.31	372,740	5.33	87.05	257,376	3.95	87.27	202,399	3.47	87.36
14–15	315,551	4.19	90.50	224,843	3.21	90.26	828,286*	12.73	.....	738,457*	12.64	.....
15–16	184,506	2.45	92.95	153,335	2.19	92.45	.....	.....	.....	.....	.....	.....
16–17	121,313	1.62	94.57	71,024	1.02	93.47	.....	.....	.....	.....	.....	.....
17 and older	408,316	5.43	.....	456,641	6.53	.....	.....	.....	.....	.....	.....	.....
Total	7,524,884	100.00	100.00	6,998,322	100.00	100.00	6,511,965	100.00	100.00	5,846,912	100.00	100.00
Age not known	52,153	.....	.....	90,806	.....	.....	93,325	.....	.....	85,469	.....	.....
Total in use	7,577,037	.....	.....	7,087,128	.....	.....	6,605,290	.....	.....	5,932,381	.....	.....
Average age of known models	6.96 yrs.			7.35 yrs.			7.43 yrs.			7.86 yrs.		

† Based on data from The Reuben H. Donnelley Corp.

MOTOR BUS FACTORY SALES—BY TYPE OF BUS*

Does Not Include Non-Integral School Buses

Year	City Coaches Domestic	City Coaches Foreign	City Coaches Total	Intercity Coaches Domestic	Intercity Coaches Foreign	Intercity Coaches Total	Special Coaches† Domestic	Special Coaches† Foreign	Special Coaches† Total	Total All Coaches Domestic	Total All Coaches Foreign	Total All Coaches Total
1946	6,842	699	7,541	2,276	107	2,383	159	7	166	9,277	813	10,090
1947	11,799	1,821	13,620	3,451	500	3,951	1,400	139	1,539	16,650	2,460	19,110
1948	6,971	1,267	8,238	2,558	468	3,026	997	37	1,035	10,526	1,773	12,299
1949	3,402	398	3,800	690	165	855	802	54	856	4,894	617	5,511
1950	.....	.....	3,452	.....	...	759	.....	...	696	.....	.....	4,907

* Automobile Manufacturers Association. † Includes Integral School Buses.

TRAILER REGISTRATIONS

1949-1950

State	Trailers and Semi-Trailers: Tourist 1950	Trailers and Semi-Trailers: Commercial 1950	Total Trailers: 1950	Total Trailers: 1949
Alabama	.....	.....	10,853	9,075
Arizona	12,800	9,200	22,000	21,011
Arkansas	.....	.....	24,677	17,396
California	.....	.....	363,055	355,575
Colorado	.....	.....	22,136	19,842
Connecticut	605,347	4,553	609,900	19,285
Delaware	.....	.....	3,714	3,705
District of Columbia	.....	1,567	1,567	1,576
Florida	69,523	11,034	80,557	98,149
Georgia	19,716	10,048	29,764	28,259
Idaho	34,903	570	35,473	32,607
Illinois	.....	.....	57,000	56,453
Indiana	99,439	21,097	120,536	132,544
Iowa	.....	.....	120,550	141,122
Kansas	.....	.....	15,694	17,374
Kentucky	.....	.....	.....	.....
Louisiana	1,964	30,699	32,663	35,078
Maine	.....	.....	20,241	18,309
Maryland	.....	.....	14,453	14,000
Massachusetts	.....	.....	50,236	48,138
Michigan	14,545	218,681	233,226	230,085
Minnesota	4,612	87,893	92,505	58,274
Mississippi	12,303	7,251	19,554	18,609
Missouri	.....	.....	82,500	82,000
Montana	.....	.....	6,908	6,659
Nebraska	4,250	8,408	12,658	11,839
Nevada	.....	.....	4,563	4,229
New Hampshire	.....	.....	9,777	9,486
New Jersey	.....	.....	25,778	23,867
New Mexico	.....	.....	6,471	5,673
New York	.....	.....	110,314	105,005
North Carolina	.....	.....	73,678	73,601
North Dakota	2,558	213	2,771	2,000
Ohio	.....	.....	192,033	189,976
Oklahoma	2,245	11,599	13,844	12,881
Oregon	11,193	11,823	23,016	21,435
Pennsylvania	.....	.....	88,799	83,043
Rhode Island	.....	.....	4,487	3,870
South Carolina	.....	.....	11,118	11,056
South Dakota	.....	.....	32,526	31,238
Tennessee	.....	.....	.....	.....
Texas	21,759	113,481	135,240	117,000
Utah	.....	.....	1,791	1,520
Vermont	.....	.....	6,173	5,955
Virginia	.....	.....	34,208	32,073
Washington	6,500	2,200	8,700	57,983
West Virginia	7,086	1,566	8,652	9,038
Wisconsin	4,164	11,476	15,640	13,337
Wyoming	.....	.....	15,490	14,619
Total	934,907	583,359	2,907,489	2,305,828

TRUCK TRAILER SHIPMENTS, BY TYPE*

Type of Trailer	1950†	1949	1948	1947
Vans				
Insulated and refrigerated	3,547	2,756	2,724	2,474
All other closed top	28,103	14,623	18,968	20,600
Open top	3,547	1,620	2,023	1,759
Total—Vans	35,197	18,999	23,715	24,833
Platforms				
With cattle and stake racks	1,513	1,094	1,949	3,404
With grain bodies	618	502	895	1,167
All other	8,282	4,873	6,366	7,932
Total—Platforms	10,413	6,469	9,210	12,503
Tanks				
Petroleum	3,478	2,008	3,042	3,386
Other	198	166	378	416
Total—Tanks	3,676	2,174	3,420	3,802
Pole and Logging				
Single axle	1,310	681	2,184	3,696
Tandem axle	1,064	628	1,718	1,624
Total—Pole	2,374	1,309	3,902	5,320
Low-bed heavy haulers	1,617	1,433	1,834	2,417
Dump trailers	770	522	654	797
All other trailers	3,019	1,841	2,142	2,399
Total—Trailers	57,066	32,747	44,877	52,071
Trailer chassis	2,164	1,526	2,083	3,301
Total—Trailers and chassis	59,230†	34,273	46,960	55,372

* Industry Division, Bureau of the Census. † Eleven months only.

TRUCK TRAILER SHIPMENTS BY MONTHS

In Units and Their Value

	1950 Shipments	1950 Value	1949 Shipments	1949 Value
January	3,151	$10,822,000	2,603	$9,110,000
February	3,551	12,321,000	2,411	8,175,000
March	4,485	15,338,000	2,864	10,054,000
April	4,487	15,338,000	2,921	10,133,000
May	4,982	17,127,000	2,583	9,157,000
June	5,614	18,684,000	2,747	9,500,000
July	6,173	21,079,000	2,178	7,917,000
August	7,210	24,680,000	2,655	9,498,000
September	6,793	23,150,000	3,119	11,068,000
October	6,657	23,991,000	3,709	12,867,000
November	6,376	23,006,000	3,274	11,589,000
December	.....	.....	3,209	10,059,000
Total*	59,479	$205,536,000	34,273	$119,098,000

* Eleven months. Does not agree with "Trailers by Type" due to revisions of which we have no record.

REVENUE MOTOR BUS FACTORY SALES

From Plants Located in the United States

Month	1950	1949	1948	1947	1946	1944	1943	1942	1941	1940
January	219	658	1,382	1,273	447	231	227	901	430	467
February	133	418	1,101	1,303	285	245	226	828	456	454
March	199	545	1,430	1,421	527	336	102	929	662	405
April	268	514	1,056	1,650	948	352	76	875	603	338
May	412	564	1,288	1,853	789	367	33	938	701	531
June	598	632	1,068	1,628	774	293	54	875	609	458
July	397	439	1,012	1,806	862	381	15	879	650	406
August	457	444	771	1,765	1,067	470	48	263	627	688
September	423	298	1,143	1,607	833	563	145	557	748	403
October	553	322	679	1,687	975	594	162	376	615	685
November	584	308	545	1,416	1,146	484	199	419	573	591
December	664	369	824	1,721	1,438	1,483	326	497	952	721
Total	4,907	5,511	12,299	19,110	10,091	5,799	1,613	8,337	7,626	6,147

Source: Automobile Manufacturers Association.

CIVILIAN AND MILITARY TRUCK TRAILER PRODUCTION, 1942-1945*

	1942 Civilian	1942 Military	1942 Total	1943 Civilian	1943 Military	1943 Total	1944 Civilian	1944 Military	1944 Total	1945 Civilian	1945 Military	1945 Total
January	1,387	2,023	3,410	556	11,785	12,341	765	32,316	33,081	2,861	12,568	15,429
February	946	1,738	2,684	925	8,767	9,692	1,035	30,718	31,753	2,251	13,314	15,565
March	1,245	2,197	3,442	430	10,915	11,345	802	25,997	26,799	2,151	14,330	16,481
April	936	3,221	4,157	567	11,471	12,038	1,124	12,886	14,010	1,997	13,629	15,626
May	1,151	4,385	5,536	611	10,487	11,098	2,592	12,089	14,681	1,854	15,084	16,938
June	1,318	4,814	6,132	1,267	14,941	16,208	1,750	9,698	11,448	2,735	15,042	17,777
July	411	4,741	5,152	698	16,866	17,564	1,624	7,162	8,786	2,422	n.a.	2,422
August	294	8,861	9,155	792	16,772	17,564	1,397	9,046	10,443	2,565	n.a.	2,565
September	227	10,614	10,841	477	19,811	20,288	4,447	9,591	14,038	2,984	n.a.	2,984
October	259	8,170	8,429	420	21,456	21,876	3,185	11,445	14,630	3,803	n.a.	3,803
November	138	10,045	10,183	518	22,264	22,782	2,523	11,540	14,063	3,873	n.a.	3,873
December	96	10,711	10,807	793	23,276	24,069	2,848	12,861	15,709	3,770	n.a.	3,770
Total	8,408	71,520	79,928	8,054	188,811	196,865	24,092	185,349	209,441	33,266	83,967‡	117,233

* As reported by the War Production Board. n.a.—Not available. ‡ Six months total.

INDEXES OF TONS TRANSPORTED IN INTERCITY SERVICE*

By Class I Intercity Motor Carriers of Property(1)

(Index Base, Year 1941 = 100.)

Region	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950(2)
New England	74	100	113	118	115	114	124	127	130	127	222
Middle Atlantic	84	100	108	114	117	113	123	142	164	168	159
Central	78	100	98	108	104	101	113	138	161	166	212
Southern	77	100	112	130	131	127	123	140	169	190	216
Northwestern	81	100	120	148	156	164	190	221	254	258	240
Midwestern	83	100	122	138	137	141	153	185	224	246	294
Southwestern	76	100	114	145	144	148	158	194	231	246	297
Rocky Mountain	92	100	136	150	149	138	149	197	230	248	317
Pacific	84	100	112	131	139	143	150	166	176	179	290
Total—United States	80	100	107	119	119	118	128	149	171	178	222

*—Compiled by the American Trucking Associations, Inc.

(1)—Covers Common and Contract Carriers. Under ICC's revised definition Class I Carriers are those having annual gross revenues of $200,000 or more as compared to the former minimum of $100,000 or more.

(2)—Preliminary Data.

COMPARISON OF INTERCITY TRUCK TONNAGE, 1949-1950*

By Commodity Class—Includes Common and Contract Carriers

Commodity Class	Number of Carriers	Tonnage Carried: Tons 1949	Tons 1950	% of U. S. Total 1949	% of U. S. Total 1950	% Change 1950 from 1949
General Freight	872	79,709,912	103,164,844	56.76	58.65	+29.4
Household Goods	47	980,636	1,113,136	.70	.63	+13.5
Heavy Machinery	24	784,102	1,022,058	.56	.58	+30.4
Liquid Petroleum	105	31,186,800	36,034,141	22.21	20.49	+15.5
Refrigerated Liquids	10	851,706	1,000,508	.61	.57	+17.5
Refrigerated Solids	16	437,292	524,529	.31	.30	+19.9
Agricultural	26	2,094,061	2,492,266	1.49	1.42	+19.0
Motor Vehicles	67	6,504,195	8,531,789	4.63	4.85	+31.2
Building Materials	16	1,538,785	1,693,053	1.10	.96	+10.0
Film and Associated	5	68,394	73,571	.05	.04	+ 7.6
All Other	170	16,276,235	20,252,693	11.58	11.51	+24.4
Total—All Classes	1358	140,432,118	175,902,588	100.00	100.00	+25.3

*—Based on a survey of 1358 common and contract carriers compiled by the American Trucking Associations, Inc. It by no means represents TOTAL tonnage.

TRANSIT RIDERS IN URBAN SERVICE*

by Types of Vehicles—1940 to 1950

(Millions of Persons)

Year	Railway: Surface	Railway: Subway and Elevated	Railway: Total	Trolley Coach	Motor Bus	Grand Total
1943	9,150	2,656	11,806	1,175	9,019	22,000
1944	9,516	2,621	12,137	1,234	9,646	23,017
1945	9,426	2,698	12,124	1,244	9,886	23,254
1946	9,027	2,835	11,862	1,311	10,199	23,372
1947	8,096	2,756	10,852	1,356	10,332	22,540
1948	6,506	2,606	9,112	1,528	10,728	21,368
1949	4,839	2,346	7,185	1,661	10,162	19,008
1950	4,162	2,217	6,379	1,619	9,302	17,300

*—American Transit Association.

NEW TRANSIT BUSES DELIVERED*

by Seating Capacity—1943 to 1950

Year	Seating Capacity: 29 or less	30 to 39	40 or more	Total Buses
1943	847	179	225	1,218
1944	2,423	369	1,015	3,807
1945	1,757	1,183	1,501	4,441
1946	1,849	2,429	2,185	6,463
1947	1,951	3,717	6,361	12,029
1948	523	2,144	4,342	7,009
1949	289	1,344	1,725	3,358
1950	n.a.	n.a.	n.a.	2,500

n.a. Not available.

*—American Transit Association.

AVERAGE BUS MILES OPERATED AND PASSENGERS CARRIED

per Class I Intercity Passenger Carrier*

Year	Number of Companies	Average Bus Miles per Carrier: Intercity	Local and Suburban	Charter or Special Service	Average Revenue Passengers per Carrier: Intercity	Local and Suburban	Charter or Special Service
1945	231	3,725,018	237,922	65,411	1,881,427	531,558	30,476
1946	254	3,796,174	239,370	69,764	1,707,595	476,416	28,425
1947	253	3,867,457	220,301	88,033	1,629,940	428,703	34,273
1948	260	4,042,377	195,223	107,650	1,618,243	408,791	37,382
1949	264	3,885,617	185,650	112,958	1,457,547	358,799	38,857
1950†	183‡	3,643,122	171,242	116,110	1,321,742	314,836	32,074

* Based on data from Interstate Commerce Commission. † First nine months. ‡ Status of a Class I carrier changed from $100,000 to $200,000 gross operating revenue—January, 1950.

INTERCITY PASSENGER-MILE TRAVELED, BY MODE OF TRANSPORTATION*

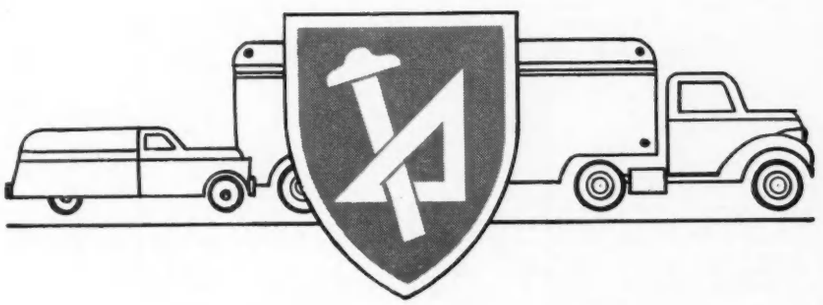
(000,000,000 omitted)

Year	Total Intercity Travel	Private Automobiles: Miles	Private Automobiles: % of Total	Public Carriers: Railroads: Miles	Railroads: % of Total	Intercity Buses: Miles	Intercity Buses: % of Total	Air Lines: Miles	Air Lines: % of Total	Waterways: Miles	Waterways: % of Total
1940	280.5	245.8	87.6	20.8	7.4	11.6	4.1	1.0	0.4	1.3	0.5
1941	307.6	264.3	85.9	26.5	8.6	13.6	4.4	1.4	0.5	1.8	0.6
1942	274.7	199.6	72.7	50.3	18.3	21.5	7.8	1.4	0.5	1.9	0.7
1943	262.6	147.1	56.0	84.6	32.2	27.4	10.4	1.6	0.7	1.9	0.7
1944	274.5	151.3	55.1	92.2	33.6	26.5	9.7	2.3	0.8	2.2	0.8
1945	300.3	179.8	59.9	88.1	29.3	26.9	9.0	3.4	1.1	2.1	0.7
1946	347.8	253.6	72.9	60.4	17.4	25.6	7.3	5.9	1.7	2.3	0.7
1947	345.6	273.0	79.0	40.8	11.8	23.9	6.9	6.1	1.8	1.8	0.5
1948	360.5	287.4	79.7	41.9	11.6	23.5	6.5	5.9	1.7	1.7	0.5
1949	447.6	382.8	85.5	35.7	8.0	21.2	4.7	6.8	1.5	1.2	0.3

* Based on data from NAMBO and Interstate Commerce Commission.

SECTION 3

SELECTION and OPERATION



IT'S a familiar adage that old friends are the best friends. Here, in Section 3 will be found the selection and operational data for which thousands rely on CCJ. All of them have been brought strictly up-to-date with last-minute cooperation from manufacturers involved and the National Highway Users Conference. And, like preceding sections, there is also a brand new gimmick—a special condensed specifications table of truck makes not normally appearing in CCJ tables (see page 146).

OPERATING CHARTS

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SPECIFICATION TABLES

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STATE SIZE and

STATE	SIZE RESTRICTIONS							GROSS WEIGHT		(See Boxed NOTE) PRACTICAL GROSS WEIGHT LIMITS (In thousands of pounds)												
			LENGTH					(LEGAL LIMITS)		Below Limits Apply to Pneumatic Tires Unless Otherwise Specified												
	Width (Inches)	Height (Feet)	Single Unit	Tractor Semi-Trailer	Other Combinations	Number of Trailers (Semi-Trailer = ½)	Minimum Tandem Axle Spacing	Pounds Per Inch of Tire Width	Per Axle (1000 lb.)	4-Wheel Single Unit	6-Wheel Single Unit	4-Wh. Tractor 2-Wh. Semi-Tr.	4-Wh. Tractor 4-Wh. Semi-T.	6-Wh. Tractor 4-Wh. Semi-T.	4-Wh. Truck 4-Wh. Trailer	4-Wh. Truck 6-Wh. Trailer	6-Wh. Truck 4-Wh. Trailer	6-Wh. Truck 6-Wh. Trailer	4-Wh. Tractor 2-Wh. Semi-T. 4-Wh. Trailer	4-Wh. Tractor 4-Wh. Semi-T. 4-Wh. Trailer	6-Wh. Tractor 4-Wh. Semi-T. 6-Wh. Trailer
Ala. TVX	96	m 12½	35	45	NP	½	NS	600	18	36	*46.9	*53.9	*53.9	*53.9	NP	NP	NP	NP	NP	NP	NP
Ariz. X	102	13½	40	65	65	1½	40	NS	18	36	50	54	68	76.8	72	76.8	76.8	76.8	76.8	76.8	76.8
Ark. VX	96	12½	35ak	50	60	1 or ½	48	NS	18	36	50	54	68.3	73.2	72	73.2	73.2	73.2	NP	NP	NP
Cal. X	96	13½	35k	60	60	NR	NS	NS-P 600-S	18	36	50	54	68	76.8	72	76.8	76.8	76.8	76.8	76.8	76.8
Colo. X	96	12½	35	60	60	2	40	500	18-I 16-J	30	46	*54	*72	*73.6	72	*73.6	*73.6	*73.6	*73.6	*73.6	*73.6
Conn. T	102	12½	45	45	NP	½	NS	NS-P 800-S	22.4	32	50	50	50	50	NP	NP	NP	NP	NP	NP	NP
Del. X	96	12½	35	50	60	1½	48	700	20	26	40c	48c	60c	60c	60c	60c	60c	60c	60c	60c	60c
D. C. XVZ	96	12½	35	50	50	1 or ½	40	NS	22	44	60	65.4	65.4	65.4	65.4	65.4	65.4	65.4	NP	NP	NP
Fla. X	96	m 12½	40a	50	50	1 or ½	40	550	18c	36	54	54	64.6	64.6	64.6	64.6	64.6	64.6	NP	NP	NP
Ga. X	96	13½	35k	45	45	1 or ½	40	NR	18-I 16-J	36	*46.9	*53.9	*53.9	*53.9	53.9	*53.9	*53.9	*53.9	NP	NP	NP
Idaho	96	14	35	60	65	1½	NS	800 c	18	36	50	54	68	72	72	72	72	72	72	72	72
Illinois	96	13½	42	45	45	1½	40	800	18	36	41	45	59	59	63	63	72	72	72	72	72
Indiana	96	m 12½	36k	50	50	1½	40	800	18	36	50	54	68	72	72	72	72	72	72	72	72
Iowa TX	96	12½	35ak	45	NP	½	40	NR	18	36	50	54	60.8	60.8	NP	NP	NP	NP	NP	NP	NP
Kansas	96	12½	35ak	50	50	1 or ½	40	NR	18-I 16-J	36	50	54	63.8	63.8	63.8	63.8	63.8	63.8	NP	NP	NP
Ky. T	96	12½	35	45	NP	½	42	600	18	36	42	42	42	42	NP	NP	NP	NP	NP	NP	NP
La.	96	12½	35ak	50	60	1 or ½	40	NR	18-I 16-J	18b	32b	36b	50b	64b	54b	NP	68b	68b	NP	NP	NP
Maine X	96	12½	45	45	45	1 or ½	48	600	22-G	32	50	50	50	50	50	50	50	50	NP	NP	NP
Md. X	96	NR	55	55	55	NR	NS	600	22.4	44.8	*58.4	*65.2	*65.2	*65.2	*65.2	*65.2	*65.2	*65.2	*65.2	*65.2	*65.2
Mass. T	96	NR	35	45	NS	1 or ½	NS	800	22.4	36	50	50	50	50	37	37	51	51	NP	NP	NP
Mich. p	96	13½	35	50	50	1½	42	700	18-P 16-S	36-W	50-W	54-W	68-W	76-W	72-W	86-W	86-W	94-W	104-W	104-W	120-W
Minn. X	96	12½	40	45	45	1 or ½	40	NR	18-P 10.8-S	36	*46.9	*54	*57.7	*57.7	*57.7	*57.7	*57.7	*57.7	NP	NP	NP
Miss. X	96	m 12½	35k	45	45	1 or ½	40	Table	18-I 16-J	27	37.6	45	52.6	52.6	52.6	52.6	52.6	52.6	NP	NP	NP
Mo. X	96	12½	35	45	45	1½	40	600	16-J 18-I	36	*46.9	*53.9	*53.9	*53.9	*53.9	*53.9	*53.9	*53.9	NP	NP	NP
Mont. X	96	13½	35k	60	60	1 or ½	40	NS	18	36	50	54	68	73.2	72	73.2	73.2	73.2	NP	NP	NP
Neb. X	96	12½	35	50	50	1½	NS	NR	18	36	50	54	64.6	64.6	64.6	64.6	64.6	64.6	NP	NP	NP
Nev. X	NR	NR	NR	NR	NR	NR	42	600	18	36	46.4	54	68.8	76.8	72	76.8	76.8	76.8	76.8	76.8	76.8
N. H.	96	13½	35	45	45	NR	48	NS	22	30	40	50	50	50	50	50	50	50	50	50	50
N. J.	96	13½	35	45	50	1 or ½	40	Table	22.4h	30	40	60	60	60	60	60	60	60	NP	NP	NP
N. M. VX	96	12½	40	65	65	1 or ½	40	600	18	36	*54	54	72	72.7	72	72.7	72.7	72.7	NP	NP	NP
N. Y. X	96	13	35	50	50	1 or ½	48	800-P 640-S	22.4	38	44	58.4	*61.5	*61.5	*61.5	*61.5	*61.5	*61.5	NP	NP	NP
N. C. Z	96	12½	35	48	48	1 or ½	48	600	18-I 16-J	L 30	44	46.2n	58.8n	58.8n	58.8n	58.8n	58.8n	58.8n	NP	NP	NP
N. D. X	96	12½	35k	45	45	1 or ½	40	550	18	36	48	54	*57.7	*57.7	*57.7	*57.7	*57.7	*57.7	NP	NP	NP
Ohio X	96	m 12½	35	45	60	NR	NS	650	18-P 16-S	38	50.5	57	*67.6	*67.6	76	78	78	78	78	78	78

WEIGHT LIMITS — SELECTION & OPERATION

STATE	SIZE RESTRICTIONS							GROSS WEIGHT (LEGAL LIMITS)		(See Boxed NOTE) PRACTICAL GROSS WEIGHT LIMITS (In thousands of pounds) Below Limits Apply to Pneumatic Tires Unless Otherwise Specified											
	Width (Inches)	Height (Feet)	LENGTH: Single Unit	LENGTH: Tractor Semi-Trailer	LENGTH: Other Combinations	Number of Trailers (Semi-Trailer = 1/2)	Minimum Tandem Axle Spacing	Pounds Per Inch of Tire Width	Per Axle (1000 lb.)	4-Wheel Single Unit	6-Wheel Single Unit	4-Wh. Tractor 2-Wh. Semi-Tr.	4-Wh. Tractor 4-Wh. Semi-T.	6-Wh. Tractor 4-Wh. Semi-T.	4-Wh. Truck 4-Wh. Trailer	4-Wh. Truck 6-Wh. Trailer	6-Wh. Truck 4-Wh. Trailer	6-Wh. Truck 6-Wh. Trailer	4-Wh. Tractor 2-Wh. Semi-T. 4-Wh. Trailer	4-Wh. Tractor 4-Wh. Semi-T. 4-Wh. Trailer	6-Wh. Tractor 4-Wh. Semi-T. 6-Wh. Trailer
X Okla.	96	m 12½	35r	50	50	1½	40	650	18	36	50	54	60	60	60	60	60	60	NP	NP	NP
VX Ore.	96	12½	35	55	60	NR	40	q 600	18	36	54	36b	50b	65.4	54b	72s	72s	72s	72s	72s	72s
Pa.	96	m 12½	35k	45	50	1 or ½	36	800	20	H 30	H 40	H 45	H 45	H 45	H 56	H 62	H 62	H 62	NP	NP	NP
R. I.	102	12½	40	50	50	1 or ½	40	800	22.4	36	56	56	60	60	64	72	72	80	NP	NP	NP
X S. C.	96	12½	40a	50	50	1 or ½	40	NR	20-I 16-J	40	52	60	68.3	68.3	68.3	68.3	68.3	68.3	NP	NP	NP
X S. D.	96	13	35ak	50	50	1 or ½	40	600	18-I 16-J	36	50	54	64.6	64.6	64.6	64.6	64.6	64.6	NP	NP	NP
X Tenn.	96	12½	35	45	45	1 or ½	NS	NS	18	36	42	42	42	42	42	42	42	42	NP	NP	NP
X Tex.	96	13½	35	45	45	1 or ½	40	650-I 600-J	18-I 16-J	36	*46.9	48	48	48	48	48	48	48	NP	NP	NP
X Utah	96	14	45	60	60	2	40	NS	18-P 13.5-S	36	51	54	69	79.9	72	79.9	79.9	79.9	79.9	79.9	79.9
Vt.	96	12½	50	50	50	1 or ½	40	600	NR	30	40	50	50	50	50	50	50	50	NP	NP	NP
VZ Va.	96	12½	35g	45	45	1 or ½	40	650	18	32	40	40	50	50	50	50	50	50	NP	NP	NP
X Wash.	96	12½	35	60	60	1 or ½	42	500	18	28	36	46	60	68	60	60	68	72	NP	NP	NP
# X W. Va.	96	12½	35	50	50	1 or ½	40	NS	18	36	54-PWB	54	68	72	73.2	73.2	73.2	73.2	NP	NP	NP
VX Wisc.	96d	12½	35	45	45	1 or ½	40	800	19-C 12-D	38-C	*53-C	57-C	*63-C	*63C	*63C	*63C	*63C	*63C	NP	NP	NP
X Wyo.	96	12½	40	60	60	1 or ½	40	NS	18	36	50	54	68	73.9	72	73.9	73.9	73.9	NP	NP	NP

*—See explanation in Note at right
#—Not approved by Governor.
a—Vehicles over 35 ft. length must have 3 axles.
b—Plus weight on front axle of motor vehicle.
c—With power brakes.
d—104 inches for urban buses.
g—State Highway Commission may allow 3-axle buses 40 ft. on designated highways.
h—Applies to vehicles registered after March 1, 1950. Vehicles registered or contracted for purchase by residents on or before March 1, 1950, are not subject to these axle limits until March 31, 1955.
k—Buses permitted 40 ft.
m—Automobile transporters allowed 13½ ft. height; in Okla. 13 ft.
n—Including tolerance.
o—Graduated according to tire width
p—26,000 lbs. on tandem axles 3 ft. 6 in. apart; applies June 1 to February 28; differs with season.
q—500 lbs. when total tires under 30 inches wide.
r—Buses permitted 45 ft.
s—Under permit; otherwise limited to 54,000 lbs.
Table—There is a table of axle weights based upon tire widths.
NP—Not permitted.
NR—No restriction.
NS—Not specified.
P—Pneumatic tires.
S—Solid tires.
B—In "Industrial Areas"—varies for different "areas."
C—Permissible on "Class A" highways.
D—Permissible on "Class B" highways.
G—Axles less than 10 ft. apart limited to 16,000 lbs. per axle.
H—Maximum shown. In practice, permissible gross weight depends on chassis weight.
I—Permissible on balloon tires.
J—Permissible on other than balloon tires.
L—Buses permitted 22,500 maximum net weight.
T—With the following exceptions full trailers are permitted the same gross weight as other single units:—
Ala., Iowa, Conn., Ky.—Full trailers prohibited.
Mass.—Trailers limited to 1,000 lbs. capacity.
V—Solid tires prohibited.
W—See Note above.
W1—Maximum gross when all axles carry maximum load—See "Note."
X—States where gross weight is determined by formula or by table of axle spacing. (See State under "Bridge Formulas" in next column and formula computations on next page.)
Z—See "Restrictions Peculiar to Certain States" on next page.

NOTE ON "W" AND ASTERISK

Except when shown by asterisk or when followed by the letter "W," the above gross weight limits are the limits fixed by state law.

When shown by asterisk the above limits are computations made by the National Highway Users Conference to show what it considers to be practical gross weights where gross weights are arrived at by application of one of the formulae shown below under Footnote "X." In making these computations, wheel base was arrived at by deducting 8 ft. total over-hang front and rear from permissible overall length of unit or combination; tandem axles were considered to be a minimum permissible distance apart; H-20 bridge formula was used in West Virginia. When actual over-hang is less than 8 ft. additional gross weight will be possible.

When followed by the letter "W," the limits shown are maximum possible weights where gross weight is determined by permissible axle weight. These limits are possible only when each axle carries a gross weight equal to the permissible axle limit as shown.

BRIDGE FORMULAS

Ala.—700 (L plus 40) on any unit or combination.

Ariz.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 ft. to 76,800 lbs. if spacing is 56 ft. or more.

Ark.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 ft. to 73,280 lbs. if spacing is 57 ft. or more.

Calif.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 76,800 lbs. if spacing is 56 feet or more.

Colo.—800 (L plus 40).

Del.—Gross weights graduated from 36,000 lbs. if axle spacing is 4 feet to 60,000 lbs. if spacing is 39 feet or more.

D. C.—Gross weights graduated from 32,000 lbs. if axle spacspacing is 4 ft. to 65,400 lbs. if spacing is 46 ft. or more.

Fla.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 64,650 lbs. if spacing is 45 feet.

Ga.—700 (L plus 40).

Idaho—Gross weights graduated from 30,500 lbs. if axle spacing is 3 feet to 72,000 lbs. if spacing is 56 feet or more.

Iowa—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 60,800 lbs. if spacing is 40 feet or more.

Kans.—Gross weight graduated from 32,000 lbs. if axle spacing is 4 feet to 63,890 lbs. if spacing is 56 feet or more.

Maine—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 50,000 lbs. if spacing is 27 feet or more.

Md.—750 (L plus 40) any unit or combination.

Minn.—750 (L plus 40) when axles are 18 feet or more apart; otherwise 650 (L plus 40).

Miss.—Gross weights graduated from 28,650 lbs. if axle spacing is 4 ft. to 52,650 lbs. if spacing is 30 ft. or more.

Mo.—700 (L plus 40) when axles are 18 feet or more apart; otherwise 650 (L plus 40).

Mont.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 73,280 lbs. if spacing is 57 feet or more.

Nebr.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 64,650 lbs. if spacing is 45 feet or more.

Nev.—Gross weights graduated from 30,100 lbs. if axle spacing is 3 feet to 76,800 lbs. if spacing is 56 feet or more.

N. M.—Gross weights graduated from 36,000 lbs. if axle spacing is 4 ft. to 76,800 lbs. if spacing is 56 ft. or more.

N. Y.—750 (L plus 40) three or more consecutive axles and any unit or combinatio[n].

N. Dak.—750 (L plus 40) any unit or combination.

Ohio—800 (L plus 47½).

Okla.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 72,000 lbs. if spacing is 39 feet or more.

Ore.—Gross weight graduated from 32,000 lbs. if axle spacing is 4 feet to 72,000 lbs. if spacing is 57 feet.

S. C.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 ft. to 68,350 lbs. if axle spacing is 50 ft. or more.

S. D.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 feet to 64,650 lbs. if axle spacing is 45 feet or more.

Tenn.—700 (L plus 40).

Texas—700 (L plus 40).

Utah—Gross weights graduated from 33,000 lbs. if axle spacing is 4 feet to 79,990 lbs. if spacing is 54 feet or more.

Wash.—Gross weight graduated from 32,000 lbs. if axle spacing is 4 feet to 72,000 lbs. if axle spacing is 57 feet or more.

W. Va.—Gross weights graduated from 32,000 lbs. if axle spacing is 4 ft. to 73,280 lbs. if spacing is 56 ft. or more.

Wyo.—Gross weight graduated from 32,000 lbs. if axle spacing is 4 feet to 73,950 lbs. if spacing is 57 feet.

STATE SIZE and WEIGHT LIMITS

Continued from Page 133

GROSS WEIGHTS COMPUTED BY FORMULAS

Computation of Gross Weights according to formulas, based on distance (in feet) between first and last axles, for States identified by State Size & Weight Limits chart by Footnote "X." It should be remembered that the figures in each column represent only a mathematical extension and are governed by Legal Overall Length Limits for single units and combinations of particular states. Also, that formula computations are superseded in some instances by specific limits given in the chart.

"L" (See Note Below)	Minnesota,[6] Missouri 650 (L + 40)	Ala., Georgia, Tenn., Texas, Missouri 700 (L + 40)	Md., Minn.,[7] N. Mex.,[7] N. Y., North Dakota 750 (L + 40)	Colorado 800 (L + 40)	Ohio 800 (L + 47½)	Wisconsin 1000 (L + 26)
10 ft.	32500 lb.	35000 lb.	37500 lb.	..... lb.	46000 lb.	36000 lb.
11	33150	35700	38250	.....	46800	37000
12	33800	36400	39000	.....	47600	38000
13	34450	37100	39750	.....	48400	39000
14	35100	37800	40500	43200	49200	40000
15	35750	38500	41250	44000	50000	41000
16	36400	39200	42000	44800	50800	42000
17	37050	39900	42750	45600	51600	43000
18	37700	40600	43500	46400	52400	44000
19	38350	41300	44250	47200	53200	45000
20	39000	42000	45000	48000	54000	46000
21	39650	42700	45750	48800	54800	47000
22	40300	43400	46500	49600	55600	48000
23	40950	44100	47250	50400	56400	49000
24	41600	44800	48000	51200	57200	50000
25	42250	45500	48750	52000	58000	51000
26	42900	46200	49500	52800	58800	52000
27	43550	46900	50250	53600	59600	53000
28	44200	47600	51000	54400	60400	54000
29	44850	48300	51750	55200	61200	55000
30	45500	49000	52500	56000	62000	56000
31	46150	49700	53250	56800	62800	57000
32	46800	50400	54000	57600	63600	58000
33	47450	51100	54750	58400	64400	59000
34	48100	51800	55500	59200	65200	60000
35	48750	52500	56250	60000	66000	61000
36	49400	53200	57000	60800	66800	62000
37	50050	53900	57750	61600	67600	63000
38	50700	54600	58500	62400	68400	64000
39	51350	55300	59250	63200	69200	65000
40	52000	56000	60000	64000	70000	66000
41	52650	56700	60750	64800	70800	67000
42	53300	57400	61500	65600	71600	68000
43	53950	58100	62250	66400	72400	69000
44	54600	58800	63000	67200	73200	70000
45	55250	59500	63750	68000	74000	71000
46	55900	60200	64500	68800	74800	.....
47	56550	60900	65250	69600	75600	.....
48	57200	61600	66000	70400	76400	.....
49	57850	62300	66750	71200	77200	.....
50	[illegible]	63000	67500	72000	78000	.....
51	59150	63700	68250	72800	.....	.....
52	59800	64400	69000	73600	.....	.....
53	60450	65100	69750	74400	.....	.....
54	61100	65800	70500	75200	.....	.....

"L"—distance in feet between first and last axles of group of axles considered.

[6]—Vehicles with axles spaced 18 feet or less.

[7]—Vehicles with axles over 18 feet apart.

RESTRICTIONS PECULIAR TO CERTAIN STATES

N. C.—Over 40,000 lbs. must have 300 cubic inches piston displacement. Over 50,000 lbs. must have 350 cubic inches.

VA.—Two-axled vehicles with six wheels permitted 32,000 lbs. gross; otherwise 24,000 lbs.

Corrected to March 15, 1951, Copyright 1951

NATIONAL HIGHWAY USERS CONFERENCE, INC., National Press Bldg., Washington, D. C.

Safety Equipment

Required & Permitted on Trucks, Truck-Tractors, Trailers & Buses

As Specified in I.C.C. Safety Rules & Regulations, State Motor Vehicle Laws & Official Rulings . . . and Compiled by National Highway Users Conference

TABULATION OF SAFETY REQUIREMENTS ON PAGES 124 & 125

EXPLANATION OF I.C.C. REFERENCES

‡—The I.C.C. Motor Carrier Safety Regulations apply to "Automotive Safety Equipment" on vehicles operated by common and contract carriers ("for hire" carriers) of persons or property and by private carriers of property, when operated regularly in interstate or foreign commerce, except when operated wholly within a municipality, between contiguous municipalities, or within a zone adjacent to and commercially a part of any such municipality or municipalities. When vehicles of common, contract or private carriers are transporting explosives or other dangerous articles the last-mentioned exception does not apply.

†—Requires "a device or other means of preventing or removing ice or frost" from windshield.

*—I.C.C. neither approves nor disapproves any indiviudal required item. Its Motor Carrier Safety Regulations, however, set forth certain constructional details or performance standards to which certain items must conform. Reference should be made to the Motor Carrier Safety Rules for complete details.

COLOR AND REQUIREMENT SYMBOLS

A—Amber
G—Green
R—Red
N—No
NP—Not Permitted
NR—Not Required
NS—Not Specified
NSM—Not Specifically Mentioned
Y—Yes
Ye—Yellow
W—White
/—When used between two letters or numbers means "or."
Example—2/4 means "2 or 4."

GENERAL FOOTNOTES

a—Prohibits red light visible from in front of vehicle.

b—Prohibits red or green light visible from in front of vehicle.

c—Tail lamp or separate lamp shall illuminate rear license plate with white light.

d—Must be located and constructed so as to illuminate rear license plate with white light.

e—May be incorporated in tail lamp.

f—Semaphores required on school buses.

g—One or both may be incorporated in tail lamp or lamps.

h—Number plate must be illuminated with white light.

i—Also two yellow reflectors on front of truck 70 in. or more in width and bus over 7 passengers.

j—Also one amber reflector on front of vehicle.

k—One may be part of tail lamp.

m—Reflectors may be substituted.

n—Reflectors may be used when vehicle has acetylene lamps.

p—White, green or amber. Where green originally used, may be continued till replacements are necessary.

r—Yellow or orange flags required.

s—On vehicles over 45 feet long, rear clearance and marker lamps shall be in combination.

t—One green marker lamp every 10 feet on combinations over 33 feet long.

u—Vehicles manufactured after December 31, 1949, shall have double wipers.

v—Rear clearance lamps may be red. May also be green on vehicles used prior to January 1, 1940.

y—Trailer and semi-trailers shall have one lamp on front visible from both sides.

z—Clearance and marker lamps may be in combination.

aa—Every vehicle 72 in. or more wide must have 2 amber or clear front, and 2 amber, clear or red rear reflectors. Clearance lamps may be substituted. Reflectors must be approved. Clearance lamps need not be approved.

cc—Vehicles manufactured after January 1, 1943, shall have double wipers.

dd—On *interstate* buses—green lights adjacent to destination sign or near upper corners;
On *intrastate* buses—purple lights in same locations.

ee—Double wipers required on all school buses.

ff—Two yellow stop lamps required on all buses.

ii—Clearance and marker lamps may be in combination. When in combination there must be one such lamp on each side, midway of vehicle.

kk—Permits tinted other than red.

xx—Fog lamps are included within the term "Auxiliary Driving Lamps" and are treated accordingly.

Data Revised to March 15, 1951

SAFETY EQUIPMENT REQUIREMENTS (Cont.)

REFERENCES AND SYMBOLS EXPLAINED ON PAGE 133

SAFETY EQUIPMENT

TO BE MOUNTED ON VEHICLES

Jurisdictional Control Over Equipment	HEAD LAMPS			TAIL LAMPS			STOP LAMPS			REAR REFLECTORS			CLEARANCE LAMPS				SIDEMARKER LAMPS				IDENTIFICATION LAMPS				DIRECTION SIGNALS				SIDE REFLECTORS			
														Color				Color				Color				Color				Color		
	Number	Color	Must Be Approved	Number	Color	Must Be Approved	Number	Color	Must Be Approved	Number	Color	Must Be Approved	Number	Front	Rear	Must Be Approved	Number	Front	Rear	Must Be Approved	Number (Sets)	Front	Rear	Must Be Approved	Number	Front	Rear	Must Be Approved	Number	Front	Rear	Must Be Approved
I.C.C.	2	NS	•	1	R	•	1e	R/ye	•	2g	R	•	2/4z	A	R	•	2/4z	A	R	•	NR	.....	.....	..	NR	.....	.....	..	2/4	A	R	•
Ala.	2	W/A	Y	1d	R	Y	1	R/ye	Y	2	R	N	2	W	R	N	NR	.....	.....	..	NR	.....	.....	..	NS	NS	R	Y	2	NS	R	N
Ariz.	2	W/A	Y	1c	R	Y	1	R/ye	Y	2	R	Y	2	A	R	Y	2/4	A	R	Y	NR	.....	.....	..	4	A	R	Y	2	A	R	Y
Ark.	2	NSb	Y	1c	R	Y	1	R/ye	Y	1e	R	Y	2	G	R	Y	4m	G	R	Y	3	G	R	Y	4	Ye	Ye/R	Y	4	G	R	Y
Calif.	2	W/A	Y	1c	R	Y	1e	A/R	Y	1/2k	R	Y	4	A	Rv	Y	NR	.....	.....	..	NR	.....	.....	..	4	A/W	A/R	Y	NR	.....	.....	..
Colo.	2	W/A	Y	1c	R	Y	1e	R	Y	2k	R	Y	4	A	R	Y	4	A	R	Y	NR	.....	.....	..	4	Ye/R	Ye/R	Y	4	A	R	Y
Conn.	2	W/A	Y	1c	R	Y	1	Rff	Y	1/2k	A/RW	Y	4aa	A/W	A/RW	Y	NR	.....	.....	..	2	dd	NR	N	4	Ye/A	Ye/A	Y	4	A/W	W/RA	Y
Del.	2	W	Y	1d	R	Y	1	R	Y	NR	.....	..	4	A	R	Y	1	t	.....	Y	NR	.....	.....	..	4	A	R	Y	NR	.....	.....	..
D. of C.	2	NSa	Y	1c	R	Y	1e	R/ye	Y	2	R	Y	4	A	R	Y	4	A	R	Y	NR	.....	.....	..	4	A	A	Y	4	A	R	Y
Fla.	2	NSa	Y	1c	R	N	1e	R/ye	Y	2	R	N	2/4z	A	R	N	2/4z	A	R	N	NR	.....	.....	..	NS	.....	R/Ye	Y	4	A	R	N
Ga.	2	NSa	N	1c	R	N	1	A/R	N	2e	R	Y	2/4z	A	R	Y	2/4z	A	R	Y	NR	.....	.....	..	NR	.....	.....	..	4	A	R	N
Idaho	2	W	Y	1d	R/ye	Y	1e	A/Rye	Y	2g	R	Y	2/4z	A	R	Y	2/4z	A	R	Y	NR	.....	.....	..	NS	Ye	Ye/R	Y	4	A	R	Y
Ill.	2	Ye/AW	N	1	R	N	1	Ye/R	N	1j	R	Y	3/6	G	R	N	NS	NS	NS	N	3	G	R	N	NS	A	Ye/R	Y	4	A	A	Y
Ind.	2	W	Y	1c	R	Y	1fe	R	Y	2i	R	N	2/4	A	R	Y	2/4	A	R	Y	NR	.....	.....	..	4f	Ye	Ye/R	Y	2/4	A	R	N
Iowa	2	Wkk	Y	1c	R	Y	1	Ye/R	Y	2k	R	Y	2/4	Ye/WA	R	Y	2/4	Ye/AW	R	Y	3	Ye/AW	R	Y	NR	...	.....	..	2/4	p	R	Y
Kan.	2	W	Y	1c	R	Y	1	Ye/R	Y	1e	R	Y	2	A	R	Y	4m	A	R	Y	3	A	R	Y	NS	Ye	Ye/R	Y	4	A	R	N
Ky.	2	Wkk	N	1n	R	N	1	Ye/R	N	1e	.....	..	2/4	G/W	R	N	NR	.....	.....	..	NR	.....	.....	..	NS	NS	Ye/R	N	NR	.....	.....	..
La.	2	NSb	Y	1d	R	Y	1	R	Y	NR	.....	..	2	A	R	Y	4	A	NS	Y	NR	.....	.....	..	4	A	R	Y	NR	.....	.....	..
Me.	2	NS	Y	1c	R	Y	NR	.....	..	1e	R	N	2/3m	A/GW	R	N	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..
Md.	2	Wkk	Y	1c	R	Y	1	A/R	Y	1e	R	Y	4m	A	R	Y	4mz	A	R	Y	NR	.....	.....	..	4	A	A/R	Y	NR	.....	.....	..
Mass.	2	Ye/AW	Y	1	R	Y	NR	.....	..	1	R	Y	2	G	R	N	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..
Mich.	2	W	N	1c	R	N	1	A/R	N	2	R	N	4z	A	R	N	4z	A	R	N	NR	.....	.....	..	NS	NS	NS	Y	2/4	A	R	N
Minn.	2	W	Y	1c	R	Y	1	Ye/R	Y	1e	R	Y	4ii	A/W	R	Y	4ii	A/W	R	Y	NR	.....	.....	..	4	Ye	Ye/R	Y	NR	.....	.....	..
Miss.	2	W	Y	1c	R	Y	1	A/R	Y	2	R	Y	4	A	R	Y	4	A	R	Y	NR	.....	.....	..	4	A	A/R	Y	4	G	R	Y
Mo.	2	W	Y	1c	R	Y	1	NS	Y	2/4	Ap	Y	2/4	A	R	Y	2/4	A	R	N	NR	.....	.....	..	NS	NS	NS	Y	2	A	R	N
Mont.	2	W	N	1d	R	N	NR	.....	..	2	R	N	4m	Ye/WG	R	N	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..
Nebr.	2	NSb	Y	1	R	Y	1	R	Y	1	R	N	2m	A/G	R	Y	NR	.....	.....	..	NR	.....	.....	..	NS	NS	R	Y	NR	.....	.....	..
Nev.	2	Wkk	N	1	R	N	1e	Ye/RA	Y	2	R	N	2/4	A	R	N	2/4	A	R	N	NR	.....	.....	..	NR	.....	.....	..	2	A	R	N
N. H.	2	NS	Y	1d	R	Y	1	NS	Y	2	R	Y	4s	A	R	Y	2s	A	R	Y	NR	.....	.....	..	NS	NS	NS	Y	4	A	R	Y
N. J.	2	Ye/AW	Y	1c	R	Y	1	R	Y	1/2k	R	Y	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..	4	Ye/A	Ye/A	Y	NR	.....	.....	..
N. M.	2	NS	Y	1d	R	Y	1e	Ye/R	Y	1/2k	R	Y	2/4	A	R	Y	4	A	R	Y	NR	.....	.....	..	4	A	R A Ye	Y	4	A	R	Y
N. Y.	2	Ye/W	Y	1h	R	Y	1	R	Y	1/2ik	R	Y	NR	.....	.....	..	NR	.....	.....	..	NR	.....	.....	..	4	Ye/A	Ye/A	Y	NR	.....	.....	..
N. C.	2	NSb	Y	1d	R	Y	1	A/R	Y	1	R	Y	4	A	R	Y	NR	.....	.....	..	NR	.....	.....	..	NS	NS	.....	Y	NR	.....	.....	..
N. D.	2	NSb	Y	1	R	Y	1	R	Y	NR	.....	..	2	A	R	Y	NR	.....	.....	..	NR	.....	.....	..	NS	NS	R	Y	NR	.....	.....	..
Ohio	2	W	N	1c	R	N	1	Ye/R	Y	2	R	N	4	A	R	N	4	A	R	N	NR	.....	.....	..	NR	.....	.....	..	4	A	R	N
Okla.	2	W	Y	2c	R	Y	1e	R/AYe	Y	2e	R	Y	4	A	R	Y	4	A	R	Y	NR	.....	.....	..	NS	Ye/A	A R Ye	Y	4	A	R	Y
Ore.	2	NSb	Y	1c	R	Y	1	Ye/R	Y	2k	R	Y	2/4	A	R	Y	2/4	A	R	Y	NR	.....	.....	..	2/4	A	R	Y	2/4	A	R	Y
Penna.	2	NSa	Y	1c	R	Y	1	Ye/R	Y	1	R	Y	2m	A	R	N	4m	A	R	N	3	A	R	N	2/4	Ye/A	Ye/R	Y	4	A	R	Y
R. I.	2	A/W	Y	1d	R	Y	1	Ye/R	Y	2	R	Y	2/4	A	R	Y	4	A	R	Y	NR	.....	.....	..	4	Ye/A	Ye/A	Y	4	A	R	Y
S. C.	2	W	N	1c	R	N	1	Ye/R	Y	1e	R	N	2/4z	A	R	N	2/4z	A	R	N	NR	.....	.....	..	4	A	Ye/R	Y	2/4	A	R	Y
S. D.	2	NSa	Y	1d	R	Y	1	Ye/R	Y	1e	R	Y	2	W	R	Y	NR	.....	.....	..	3	G	R	Y	4	A	Ye/R	Y	NR	.....	.....	..
Tenn.	2	NSa	Y	1	R	Y	1	A/R	Y	2	R	N	4	A	R	Y	4	A	R	Y	NR	.....	.....	..	NR	.....	.....	..	4	A	R	Y
Tex.	2	W	Y	1d	R	N	1	Ye/R	Y	2	R	Y	2/4z	A	R	Y	2/4z	A	R	Y	NR	.....	.....	..	4	A	R A Ye	Y	2/4	A	R	Y
Utah	2	NSa	Y	1c	R	Y	1e	Ye/R	Y	2g	R	Y	4	A	R	N	4	A	R	N	NR	.....	.....	..	4	A	Ye/R	Y	4	A	R	Y
Vt.	2	NS	Y	1d	R	Y	NR	.....	..	NR	.....	..	1	G	R	Y	NR	.....	.....	..	NR	.....	.....	..	NR	.....	NR	..	NR	.....	.....	..
Va.	2	W	Y	1c	R	Y	1	R	Y	NR	.....	..	4	A	R	Y	NR	.....	.....	..	1y	W	NR	Y	4	A	A/R	Y	NR	.....	.....	..
Wash.	2	NSa	Y	2c	R	Y	1e	R	Y	2e	R	Y	4	Ye	R	Y	2/4z	A	R	Y	NR	.....	.....	..	4	Ye	Ye	Y	4	Ye/A	R	Y
W. Va.	2	NSa	N	1c	R	Y	1e	A/R	N	2g	R	N	2/4z	A	R	N	2/4z	A	R	N	1y	W	NR	N	NR	.....	.....	..	4	A	R	N
Wisc.	2	W	Y	1m	A/R	Y	1m	A/R	N	1	R	Y	2/4	A	R	Y	NR	.....	.....	..	NR	.....	.....	..	4	W/A	R/A	N	4	A	R	Y
Wyo.	2	NSa	Y	1d	R	Y	1	Ye	Y	1	R	Y	2m	G	R	Y	2m	G	NS	N	NR	.....	.....	..	4	Ye	Ye	Y	4	A	R	Y

REQUIRED → | ← PERMITTED →

TO BE CARRIED IN VEHICLES | TO BE MOUNTED

Jurisdictional Control Over Equipment	REAR VIEW MIRROR		WINDSHIELD WIPERS		DEFROSTERS		FIRE EXTINGUISHERS		LIQUID BURNING FLARES		ELECTRIC FLARES			REFLECTOR FLARES			FUSEES			RED CLOTH FLAGS		LIGHT OR FLAG ON PROJECTING LOAD		AUXILIARY DRIVING LAMPS			FOG LAMPS			SPOT LAMPS			Driving Lights Permitted Lit At One Time
	Number	Must Be Approved	Number	Must Be Approved	Number	Must Be Approved	Number	Must Be Approved	Number	Must Be Approved	Number	Color	Must Be Approved	Number	Color	Must Be Approved	Number	Color	Burning Time (Min.)	Number	Size (Square)	Light or Lantern	Flag Size (Sq.)	Number	Color	Must Be Approved	Number	Color	Must Be Approved	Number	Color	Must Be Approved	
Ala.	1	N	1	N	2	Y	1	Y	3	Y	3	R	Y	3	R	Y	3	R	NS	2	12	1	12	2	NS	Y	2	NS	Y	1	NS	Y	NS
Ariz.	1	N	1	N	1†	N	1	Y	3	N	3	R	N	3	R	Y	3	R	15	2	12	1	12	2	NSa	Y	2	NS	Y	1	NSa	Y	4
Ark.	1	N	1	N	NR	...	NR	...	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	1	16	3	NSa	Y	XX	.....	...	1	NSa	Y	4
Calif.	1	N	1u	N	NR	...	1	Y	2	N	2	R	N	2	R	Y	NR	...	...	NR	...	2	16	2	A/W	Y	2	A/W	Y	2	NS	Y	4
Colo.	1	N	1	N	NR	...	1	...	3	Y	3	R	Y	3	R	Y	3	R	20	3	NS	1	16	3	NS	Y	XX	.....	...	1	NS	Y	4
Conn.	1	N	1	N	1†	N	1	N	3n	Y	3n	R	Y	3n	R	Y	3n	R	NS	NR	...	1	NS	2	A/W	N	XX	.....	...	1	A/W	N	4
Del.	1	N	1	N	NR	...	NR	...	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	1	12	2	W	Y	2	A	Y	2	W	Y	4
D. of C.	½	N	2	N	NR	...	1	N	NR	...	NR	...	...	NR	...	...	NR	...	...	NR	...	1	12	2	A/W	Y	2	A/W	Y	1	A/W	N	2
Fla.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	NR	...	...	3	R	15	2	12	1	16	3	NSa	N	NSM	.....	...	1	NSa	N	NS
Ga.	1	N	1	N	1†	N	1	Y	3	N	3	R	N	3	R	N	3	R	15	2	12	1	12	2	NSa	N	NSM	.....	...	1	NSa	N	NS
Idaho	1	N	2	N	1	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	NS	NR	...	1	16	2	NSa	Y	NSM	.....	...	2	NSa	Y	2
Ill.	1	N	1	N	NR	...	2	N	3	Y	3	R	Y	3	R	Y	NR	...	...	3	NS	1	16	3	NS	N	XX	.....	...	1	NS	N	4
Ind.	1	N	1	N	NR	...	NR	...	3	Y	3	R	Y	NR	...	...	3	R	15	2	12	1	16	3	NS	N	XX	.....	...	1	W	N	4
Iowa	1	N	1	N	NR	...	2	Y	3	Y	3	R	Y	3	R	Y	1	NS	NS	3	NS	1	16	3	NSa	N	XX	.....	...	1	NSa	N	4
Kan.	1	Y	1	N	1†	N	2	N	3	Y	3	R	Y	3	R	Y	3	R	15	3	15	1	16	3	A/W	Y	XX	.....	...	1	W	N	4
Ky.	1	N	1	N	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	NR	...	1	NS	NSM	.....	...	NSM	.....	...	NSM	.....	...	NS
La.	1	N	1	...	NR	...	1	N	3	Y	3	R	Y	3	R	Y	NR	...	...	2	12	1	12	2	NSa	Y	XX	.....	...	P	rohibited		NS
Me.	1	N	1	N	1†	N	1	Y	3	N	3	R	N	3	R	N	NR	...	...	2	12	1	NS	2	A/W	Y	XX	.....	...	1	NS	N	NS
Md.	1	N	1	N	NR	...	2	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	1	16	3	NSa	Y	XX	.....	...	1	NSa	N	4
Mass.	1	N	1	N	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	NR	...	NSM	.....	...	NSM	.....	...	1	NSa	Y	NS
Mich.	1	N	1	N	NR	...	1	N	3	Y	3	R	Y	3	R	Y	3	R	15	2	12	1	12	2	A/W	N	XX	.....	...	2	A/W	N	NS
Minn.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	3r	24	1	16	4	A/W	Y	XX	.....	...	2	W	Y	4
Miss.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	NSM	...	...	3	R	15	NR	...	1	16	2	NS	Y	XX	.....	...	1	NS	N	4
Mo.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	2	NS	1	16	3	Ye/AW	N	XX	.....	...	1	Ye/AW	N	4
Mont.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	2	14	1	16	3	NSb	Y	XX	.....	...	1	NS	Y	NS
Nebr.	1	N	1	N	NR	...	1	Y	3	Y	NR	...	...	3	R	Y	NR	...	...	2	NS	1	12	2	NSb	Y	NSM	.....	...	1	NSb	Y	NS
Nev.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	NSM	...	...	3	R	15	2	12	1	NS	3	NS	N	XX	.....	...	1	NS	N	4
N. H.	1	N	1	N	1	N	1	Y	2	Y	2	R	Y	2	R	Y	2	R	20	NR	...	1	12	3	NS	Y	2	A	Y	2	NS	Y	4
N. J.	1	N	1	N	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	1	18	2	A/W	Y	XX	.....	...	1	NSa	Y	4
N. M.	1	N	1	N	1	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	3	12	1	12	2	NS	Y	XX	.....	...	2	NS	Y	4
N. Y.	1	N	1	N	1†	N	1	Y	2	Y	2	R	Y	2	R	Y	NR	...	...	NR	...	1	NS	NSM	.....	...	NSM	.....	...	NSM	.....	...	NS
N. C.	1	N	1	Y	NR	...	2	Y	2	N	2	R	N	NP	...	...	2	R	NS	2	12	1	12	2	NS	N	XX	.....	...	2	NS	Y	NS
N. D.	1	N	1	N	NR	...	1	N	3	Y	3	R	Y	3	R	Y	NR	...	...	2	12	1	12	2	NS	Y	XX	.....	...	2	NS	Y	2
Ohio	1	N	1	N	NR	...	2	Y	3	Y	3	R	Y	NP	...	...	3	R	15	2	12	1	16	3	W	N	NS	Ye/AW	N	1	W	N	NS
Okla.	1	N	1	N	1	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	3	12	1	12	2	NSa	Y	XX	.....	...	2	NSa	Y	4
Ore.	1	N	1	N	NR	...	1	Y	3	N	3	R	N	3	R	Y	NR	...	...	3	12	1	12	3	NSa	Y	XX	.....	...	1	NS	Y	4
Penna.	1	N	1	N	NR	...	1	N	3	Y	3	R	Y	3	R	Y	NR	...	...	3	12	1	12	3	W	Y	2	A/W	Y	1	NS	N	4
R. I.	1	N	1ee	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	2	12	1	12	2	A/W	Y	XX	.....	...	2	NS	Y	4
S. C.	1	N	1	N	1†	N	2	Y	3	Y	3	R	Y	3	R	Y	3	R	15	3	12	1	12	3	NS	Y	XX	.....	...	1	NS	N	4
S. D.	1	N	NR	...	1	N	1	N	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	1	12	3	NS	Y	XX	.....	...	1	NS	N	NS
Tenn.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	2	12	1	12	2	NS	N	XX	.....	...	2	NSa	N	4
Tex.	1	N	NR	...	1†	N	2	Y	3	Y	3	R	Y	3	R	Y	3	R	15	2	12	1	12	3	NS	N	XX	.....	...	1	NS	N	4
Utah	1	N	1	N	1	N	1	Y	3	Y	3	R	Y	3	R	Y	3	R	15	2	12	1	12	3	NSa	N	XX	.....	...	1	NSa	N	NS
Vt.	1	N	1	N	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	2	12	1	12	2	NS	Y	2	NS	Y	2	NS	Y	NS
Va.	1	Y	1cc	Y	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	2	12	1	12	2	A/W	Y	2	A/W	Y	1	W	Y	4
Wash.	1	N	2	N	NR	...	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	2	12	1	12	1	NS	Y	2	A/W	Y	1	W	N	4
W. Va.	1	N	1	N	1†	N	1	Y	3	Y	3	R	N	NR	...	...	3	R	15	2	12	1	12	NSM	.....	...	NSM	.....	...	1	NS	N	NS
Wisc.	1	N	1	N	NR	..	1	Y	3	Y	3	R	Y	3	R	Y	3	R	20	2	NS	1	12	2	NSa	Y	NS	NSa	Y	2	W	Y	4
Wye.	1	N	1	N	1†	N	1	Y	3	Y	3	R	Y	3	R	Y	NR	...	...	NR	...	NR	...	2	NSa	Y	XX	.....	...	2	NSa	Y	NS

POWER RATINGS of

Showing maximum and net horsepower, maximum torque, weight

ENGINE MAKE AND MODEL	Number of Cylinders Bore and Stroke (In.)	MAX. BRAKE H.P. at R.P.M.		Piston Displacement (Cu. In.)	Compression Ratio	TORQUE	Engine Weight Without Carburetor or Ignition (Lb.)
		With Bare Engine	With Standard Accessories			Maximum Torque at R.P.M. (Lb. Ft.)	
AUTOCAR							
377	6-4x5	119-2800	.....	377.0	6.00	288-1100 (BE)	1230
447	6-4¼x5¼	145-2700	.....	447.0	6.00	353-1100 (BE)	1385
501	6-4½x5¼	165-2700	.....	501.0	5.90	400-1100 (BE)	1395
BUDA							
(Bus) HP-326	6-3 11/16x4¾	76-2400	66-2400	326.0	5.40	220-1100 (BE)	885
(Bus) K-428	6-4⅛x4¾	107-2400	95-2400	428.0	5.33	278-1100 (BE)	905
LO-525	6-4½x5½	157-2400	139-2400	525.0	5.00	400-1200 (BE)	1195
6-MO-893	6-5⅛x6	199-2000	170-2000	893.0	5.50	670-1000 (BE)	2400
6-MO-970	6-5⅛x6½	200-1800	171-1800	970.0	5.43	720- 800 (BE)	2400
CHEVROLET							
1951	6-3 9/16x3 11/16	105-3600	98-3500	235.5	6.70	186-2000 (EA)	596
1951 COE	6-3 9/16x3 11/16	100-3500	96-3400	235.5	6.70	187-2000 (EA)	613
1951 FC	6-3 9/16x3 11/16	92-3400	85-3300	235.5	6.70	176-1700 (EA)	604
1951	6-3½x3¾	92-3400	85-3300	216.5	6.60	170-1500 (EA)	583△△
CONTINENTAL							
F-4124	4-3 7/16x4⅜	46-3000	.....	123.7	6.50	86-1400 (BE)	395
F-4140	4-3 7/16x4⅜	52-3000	.....	139.6	6.30	108-1400 (BE)	395
F-4162	4-3 7/16x4⅜	58-3000	.....	162.4	6.10	122-1600 (BE)	395
F-6186	6-3x4⅜	77-3400	.....	185.6	6.70	142-1600 (BE)	515
F-6209	6-3 7/16x4⅜	90-3400	.....	209.4	6.70	161-1600 (BE)	515
F-6226	6-3 7/16x4⅜	100-3400	.....	226.0	6.70	180-1600 (BE)	515
M-6271	6-3⅝x4⅜	94-3000	.....	270.9	6.70	208-1200 (BE)	755
M-6290	6-3⅝x4⅜	104-3000	.....	289.9	6.70	220-1200 (BE)	755
M-6330	6-4x4⅜	120-3000	.....	329.4	6.70	253-1200 (BE)	755
B-6371	6-4⅛x4⅝	128-2800	.....	370.9	6.40	283-1300 (BE)	870
T-6371	6-4⅛x4⅝	144-3000	.....	370.9	6.40	297-1400 (BE)	1070
B-6427	6-4⅝x4⅞	150-2800	.....	427.2	6.40	325-1300 (BE)	875
T-6427	6-4⅝x4⅞	166-3000	.....	427.2	6.40	342-1400 (BE)	1075
U-6501	6-4⅛x5¼	177-2600	.....	501.0	6.20	400-1400 (BE)	.....
R-6513	6-4⅛x5¾	180-2800	.....	512.9	6.00	410-1300 (BE)	1525
R-6572	6-4⅜x5⅜	200-2800	.....	571.7	6.00	450-1300 (BE)	1525
R-6602	6-4⅞x5⅜	212-2800	.....	602.0	6.00	480-1300 (BE)	1525
S-6749	6-5⅜x5½	247-2600	.....	748.8	6.10	576-1400 (BE)	1865
DODGE							
T-172, T-174	6-3¼x4⅜	96-3600	82-3600	217.8	6.60	172-1200 (BE)	500
T-176	6-3¼x4⅝	102-3600	83-3200	230.2	6.70	187-1200 (BE)	525
T-164, T-165	6-3¼x4⅝	94-3200	83-3200	230.2	6.70	186-1200 (BE)	540
T-137	6-3¼x4⅝	94-3200	78-3200	230.2	6.70	186-1200 (BE)	570
T-178, TX-178, T-192, TX-182	6-3 7/16x4¼	109-3600	91-3200	236.6	6.60	192-1200 (BE)	575
T-180, TX-180, T-184, TX-184	6-3 7/16x4½	114-3600	98-3200	250.6	6.60	204-1200 (BE)	590
T-186	6-3½x4⅝	122-3200	106-3200	306.0	6.46	245-1200 (BE)	850
T-188, TX-188	6-3⅝x5	128-3000	111-2800	331.3	6.46	270-1200 (BE)	850
T-190	6-4x5	154-3000	140-2800	377.0	6.50	330-1200 (BE)	1050
FORD							
(Bus) 8MB	6-3½x4.4	104-3000	86-3000	254.0	6.8	212-1200 (BE)	539
7HT	6-3.3x4.4	95-3300	87-3100	226.0	6.8	180-1200 (BE)	500
8RT	8-3 7/16x3¾	100-3800	90-3500	239.0	6.8	180-2000 (BE)	534
8EQ	8-3½x4⅜	145-3600	127-3300	337.0	6.4	255-1800 (BE)	780
8MTH	6-3½x4.4	110-3400	100-3150	254.0	6.80	212-1200 (BE)	523
G. M. C.							
228	6-3 7/16x3 11/16	100-3400	90-3200	228.0	6.75	182-1200 (BE)	.....
248	6-3 11/16x3 11/16	114-3600	104-3400	248.5	6.75	202-1200 (BE)	.....
270	6-3 11/16x4	120-3600	103-3200	269.5	6.75	212-1600 (BE)	.....
360	6-4⅛x4½	155-3200	140-3000	360.8	6.50	297-1000 (BE)	.....
426	6-4½x5	177-3200	154-2800	425.6	6.50	342-1200 (BE)	.....
503	6-4 15/16x5⅛	200-3000	181-2800	502.7	6.50	422-1200 (BE)	.....

ENGINE MAKE AND MODEL	Number of Cylinders Bore and Stroke (In.)	MAX. BRAKE H.P. at R.P.M.		Piston Displacement (Cu. In.)	Compression Ratio	TORQUE	Engine Weight Without Carburetor or Ignition (Lb.
		With Bare Engine	With Standard Accessories			Maximum Torque at R.P.M. (Lb. Ft.)	
HALL-SCOTT							
(m) (H) 136	6-4½x5	157-2600	136-2600	477.1	6.00	375-1700 (BE)	1275*
(H) 504	6-4⅝x5	180-2500	159-2500	504.0	6.00	425-1600 (BE)	1275*
(m) (H) 180-1-3-5	6-5x6	208-2200	188-2100	707.0	6.00	540-1500 (BE)	1786*
(m) (H) 190-2-3-5	6-5¼x6	220-2200	200-2200	779.0	5.60	625-1300 (BE)	1786*
(H) 190-1	6-5¼x6	235-2200	215-2200	779.0	6.00	640-1400 (BE)	1970*
470	6-5½x6	250-2100	224-2100	855.3	5.50	660-1600 (BE)	2150*
(m) 480	6-5½x6	266-2100	240-2100	934.8	5.70	760-1400 (BE)	2150*
(m) 400	6-5¾x7	290-1800	264-1800	1090.0	5.70	930-1300 (BE)	2150*
HERCULES							
ZXA	4-2 1/16x3	23-3800	19-3800	58.8	6.10	37-1800 (BE)	170
ZXB	4-2 5/16x3	25-3800	21-3800	64.9	6.10	39-1800 (BE)	170
IXA	4-3x4	40-3200	34-3200	113.0	5.50	79-2000 (BE)	285
IXB	4-3 1/16x4	47-3200	40-3200	133.0	5.50	92-1800 (BE)	293
IXLB	4-3 1/16x4 1/16	49-3200	42-3200	141.0	6.50	96-1800 (BE)	293
JX4E	4-3 1/16x4 1/16	52-2900	44-2900	164.0	6.70	121-1400 (BE)	470
JX4C	4-3 3/16x4 1/16	60-2900	51-2900	188.0	6.70	139-1400 (BE)	470
JX4D	4-4x4 1/16	68-2900	57-2900	214.0	6.70	157-1400 (BE)	470
QXA	6-3 1/16x4 1/16	64-3200	54.5-3200	190.0	6.50	132-1300 (BE)	440
QXB	6-3 1/16x4 1/16	69-3200	59-3200	205.0	6.50	142-1400 (BE)	440
QXC	6-3 5/16x4 1/16	7.5-3200	66-3200	221.0	6.50	159-4000 (BE)	440
QXLD	6-3 7/16x4 1/16	91-3200	77-3200	236.7	6.50	189-1400 (BE)	445
JXE	6-3 1/16x4 1/16	91-3200	77-3200	245.0	6.50	184-1400 (BE)	590
JXB	6-3 5/16x4 1/16	98-3200	83-3200	263.0	6.50	190-1400 (BE)	605
JXC	6-3 3/4x4 1/16	103-3200	87.5-3200	282.0	6.50	207-1400 (BE)	605
JXD	6-4x4 1/16	113-3000	96-3000	320.0	6.50	240-1200 (BE)	605
JXLD	6-4x4 1/2	131-3200	111-3200	339.0	6.90	272-1400 (BE)	630
WXC-3	6-4 1/16x4 1/2	131-2600	111-2600	383.0	6.60	296-1400 (BE)	820
WXLC	6-4x4¾	123-2600	104-2600	358.0	6.60	275-1200 (BE)	811
WXLC-3	6-4 1/16x4¾	139-2600	118-2600	404.0	6.60	312-1300 (BE)	825
TDXB	6-4⅜x5¼	160-2600	136-2600	474.0	6.50	366-1400 (BE)	1345
RXB	6-4 1/16x5¼	137-2400	116-2400	501.0	6.50	350-1200 (BE)	1000
RXC	6-4⅝x5¼	143-2400	121-2400	529.2	6.50	372-1200 (BE)	1010
RXLC	6-4⅝x5¼	146-2400	124-2400	529.2	6.20	408-1100 (BE)	1195
RXLD	6-4⅜x5¼	154-2400	131-2400	558.0	6.50	430-1100 (BE)	1195
RXLDH	6-4⅜x5¼	180-2600	153-2600	558.0	6.50	443-1400 (BE)	1470
HXB	6-5x6	159-2000	135-2000	707.0	5.75	502- 900 (BE)	1810
HXC	6-5¼x6	175-2000	149-2000	779.0	5.75	555- 900 (BE)	1810
HXD	6-5½x6	202-2000	172-2000	855.0	5.75	645- 900 (BE)	1830
HXE	6-5¾x6	227-2000	193-2000	935.0	6.20	750-1000 (BE)	1830
INTERNATIONAL							
SD-220	6-3 7/16x3 11/16	100-3600	90-3800	220.5	6.50	167-1200 (EA)	607
SD-240	6-3 7/16x4.02	108-3600	93-3400	240.3	6.50	186-1100 (EA)	607
BD-269	6-3 7/16x4 1/2	100-3000	88.6-2800	269.1	6.30	216-1000 (EA)	761
RD-372	6-4⅝x4 1/2	144-3200	128-2850	372.1	6.30	280-1000 (EA)	937
RD-406	6-4⅝x4 1/2	154-3200	138-2750	405.9	6.30	314-1000 (EA)	942
RD-450	6-4⅝x5	182-3000	146-2600	451.0	6.20	354-1000 (EA)	948
JACOBS							
O-360-U	6-4 1/16x4	150-2800	.....	361.0	6.50	310-1700 (BE)	425
LE ROI							
H540	8-4 1/16x4 1/16	206-3000	.....	540.0	6.70	450-1800 (EA)	1300
MACK							
EN291	6-3⅜x4⅜	112-3200	105-3200	290.0	6.90	225-1400 (EA)	910
EN331	6-4x4⅜	130-3200	121-3200	330.0	6.90	256-1400 (EA)	920
EN377	6-4x5	147-3200	132-3200	377.0	6.90	283-1400 (EA)	1056
EN431A	6-4⅝x5⅜	147-2800	129-2800	431.0	6.32	326-1400 (EA)	1525
EN510A	6-4 7/16x5½	161-2600	143-2600	510.0	6.07	383-1000 (EA)	1555
EN510A	6-4 7/16x5½	161-2800	142-2600	510.0	6.07	366-1000 (EA)	1555
ENF510A	6-4 7/16x5½	161-2550	150-2550	510.0	6.34	398-1200 (EA)	1594
EN707A	6-5x6	210-2500	193-2500	707.0	6.10	544-1100 (EA)	1803
ENF707A	6-5x6	213-2500	203-2500	707.0	6.42	569-1200 (EA)	1854

ABBREVIATIONS

*—With ignition and carburetor.
**—Supercharged.
■—Without fan or muffler.
BE—Bare engine.
EA—Engine with standard accessories.
FC—Forward Control.
△△—Weight for ½-ton trucks, 573 lb.
(H)—Horizontal.
(m)—A model in this series is also available for use with liquid petroleum gases. The engine will have a

TRUCK and BUS ENGINES

and piston displacement for both gasoline and diesel types

ENGINE MAKE AND MODEL	Number of Cylinders Bore and Stroke (In.)	MAX. BRAKE H.P. at R.P.M.		Piston Displacement (Cu. In.)	Compression Ratio	TORQUE	Engine Weight Without Carburetor or Ignition (Lb.)
		With Bare Engine	With Standard Accessories			Maximum Torque at R.P.M. (Lb. Ft.)	
REO							
GC-245	6-3 1/2x4 1/4	89-3100	.....	245.0	6.20	191-1200 (BE)	763*
OA-255	6-3 5/8x4 1/8	107-3400	93-3400	255.0	6.70	183-1200 (EA)	820
GC-288	6-3 1/2x5	96-3000	.....	288.0	6.20	225-1200 (BE)	780*
GC-310	6-3 5/8x5	101-3000	.....	310.0	6.20	243-1000 (BE)	785*
OA	6-4 1/8x4 1/8	140-3200	128-3200	331.0	6.40	260-1200 (EA)	872
OA	6-3 7/8x4 1/8	124-3300	110.53300	292.0	6.55	218-1400 (EA)	830
TWIN COACH							
FTC-180	6-4 1/4x4 3/4	180-2800	162-2800	404.0	7.50	390-1600 (EA)	950
FTC-200	6-4 3/8x5	200-2800	.....	451.0	7.50	442-1400	950
FTC-210	6-4 1/2x5	210-2800	.....	477.0	7.50	460-1600	950
WAUKESHA							
FC	4-3 1/4x4	32-2600	24-1800	133.0	5.58	86-1200 (BE)	290
XAH	4-3 5/8x4 1/2	43-2200	36-1800	185.0	5.50	120- 900 (BE)	385
190GL	6-3 3/4x4	61-1800	61-1800	265.0	6.70	210- 900 (BE)	.....
6BZ	6-4x4 1/4	105-3000	89-3000	320.0	5.75	235-1000 (BE)	706
140-GK	6-4 1/2x5 1/2	142-2250	127-2250	525.0	6.00	425-1000 (BE)	1390
6SRKR	6-4 5/8x5 1/8	126-2250	109-2250	517.0	5.50	369- 600 (BE)	1225
145-GK	6-5 1/4x6	186-2000	172-2000	779.0	6.20	590-1200 (BE)	1810
6WAK	6-6 1/4x6 1/2	235-1800	193-1300	1197.0	5.20	865- 900 (BE)	3050
145GZ	6-5 5/8x6	220-2000	206-2000	817.0	6.00	615-1200 (BE)	1810
6MZA	6-4 1/4x4 3/4	128-2800	113-2800	404.0	5.90	290-1000 (BE)	920
**140GKB	6-4 1/2x5 1/2	176-2800	159-2600	525.0	6.40	435- 800 (BE)	1390
**140GZB	6-4 5/8x5 1/2	188-2600	171-2600	554.0	6.40	451-1000 (BE)	1390
**145GKB	6-5 1/4x6	225-2400	207-2400	779.0	6.20	595-1400 (BE)	1810
180GL	4-3 1/2x3 3/4	36-2000	31-2000	144.0	6.80	105- 800 (EA)	450
**195GKA	6-4 1/8x4	122-3000	110-3000	320.0	6.20	230-1600 (EA)	775
195GK	6-4 1/8x4	105-2400	96-2400	320.0	6.20	232-1500 (EA)	775
135GZ	6-4 5/8x5	150-2800	135-2800	451.0	6.00	320-1400 (EA)	.....
WHITE							
116A	6-3 3/4x4 1/2	110-3100	.....	298.0	6.68	230-1200 (BE)	1075
120A	6-3 7/8x4 1/2	114-3000	.....	318.0	6.50	250-1200 (BE)	1070
130A	6-4x4 1/2	120-3000	.....	340.0	6.60	270-1200 (BE)	1075
140A	6-3 7/8x5 1/8	125-3000	.....	362.0	6.03	285-1400 (BE)	1070
150A	6-4x5 1/8	135-3000	.....	386.0	6.45	315-1300 (BE)	1070
250A	6-4x5 1/8	147-3000	.....	386.0	6.75	330-1200 (BE)	1075
260A	6-4 5/8x5	170-2800	.....	451.0	6.25	350-1200 (BE)	1409*
280A	6-4 5/8x5	184-2800	.....	504.0	6.50	405-1200 (BE)	1442*
(Bus) 280TA	6-4 5/8x5	175-2700	.....	504.0	6.00	400-1200 (BE)	1721
(Bus) 24AK	12-4 1/8x4 1/4	210-2700	.....	681.0	6.00	500-1200 (BE)	2090
WILLYS							
CJ-3A	4-3 1/8x4 3/8	63-4000	.....	134.2	6.48	105-2000 (BE)	344
473	4-3 1/8x4 3/8	72-4000	.....	134.2	7.40	114-2000 (BE)	390
673	6-3 1/8x3 1/2	75-4000	.....	161.0	6.90	125-2000 (BE)	406
DIESELS							
BUDA							
6BD-230	6-3 7/16x4 1/2	60-2400	52-2400	230	15.30	156-1400	860
6BD-273	6-3 3/4x4 1/2	75-2400	65-2400	273	15.00	197-1300	.....
6-DT-317	6-3 5/8x5 1/2	90-2300	75-2300	317	14.50	224-1500	1133
6-DT-468	6-4 1/2x5 1/2	113-2000	97-2000	468	14.20	268.5-1100	1435
6DA-779	6-5 1/4x6	185-2100	167-2000	779	14.20	540-1400	.....
6-DC-844	6-5 1/4x6 1/2	200-2000	176-2000	844	13.00	620-1200	2850
**6-DCS-844	6-5 1/4x6 1/2	245-2000	211-2000	844	.....	690-1400	.....
8-DC-1125	8-5 1/4x6 1/2	240-1800	212-1800	1125	13.00	800-1100	.....
**8DCS-1125	8-5 1/4x6 1/2	300-2000	300-2000	1125	.....	970-1250	.....
CONTINENTAL							
TD-6427	6-4 7/16x4 7/8	112-2400	.....	427	14.5	300-1200	1270
RD-6572	6-4 3/4x5 5/8	150-2200	.....	572	14.5	400-1200	1785
CUMMINS							
A-600	6-4x5	■100-2200	■85-2200	377	18.00	275-1200	1640
JBS-600	6-4 1/8x5	150-2500	.....	401	15.00	360-1100	1745
H-400	4-4 7/8x6	■100-1800	■83-1800	448	17.00	340- 800	1840
H-600	6-4 7/8x6	■150-1800	■125-1800	672	17.00	500- 800	2595
**HS-600	6-4 7/8x6	■200-1800	■175-1800	672	14.00	625-1400	2780
NH-600	6-5 1/8x6	■200-2100	■174-2100	743	15.50	535-1400	2680
**NHS-600	6-5 1/8x6	■275-2100	■240-2100	743	13.50	710-1600	2975
HR-600	6-5 1/8x6	■165-1800	■141-1800	743	15.50	540-1000	2600
HR-400	4-5 1/8x6	110-1800	94-1800	495	15.50	360-1050	1840
**HRS-600	6-5 1/8x6	225-1800	191-1800	743	13.50	695-1000	2780
**NHRS-600	6-5 1/8x6	300-2100	255-2100	743	12.00	800-1400	2925
(H) NHH-600	6-5 1/8x6	175-2000	148-2000	743	15.50	505-1100	2650
NVH-1200	12-5 1/8x6	400-2100	350-2100	1486	15.50	1075-1200	5500
**NVHS-1200	12-5 1/8x6	550-2100	480-2100	1486	13.50	1420-1600	5000
GENERAL MOTORS							
2-71	2-4 1/4x5	.....	■65-2000	142	16.00	200-1200	770
3-71	3-4 1/4x5	.....	■100-2000	213	16.00	300-1200	1245
4-71	4-4 1/4x5	.....	■133-2000	284	16.00	400-1200	1380
6-71	6-4 1/4x5	.....	■200-2000	426	16.00	600-1200	1655
6-110	6-5x5.6	.....	■275-1800	660	18.00	864-1200	2960
HERCULES							
DIX4B	4-3 1/4x4	46-3000	39-3000	133	15.00	96-1500	600
DIX4D	4-3 5/8x4	57-3000	48-3000	165	15.00	120-1500	600
DOOB	4-3 3/4x4 1/2	62-2600	53-2600	199	15.00	142-1400	750
DOOC	4-4x4 1/2	70-2600	60-2600	226	15.00	162-1400	750
DOOD	4-4 1/4x4 1/2	79-2600	66-2600	255	15.00	182-1400	750
DIX6D	6-3 5/8x4	93-3000	79-3000	249	15.50	186-1800	800
DJXB	6-3 1/2x4 1/2	77-2600	66-2600	260	15.00	179-1300	950
DJXC	6-3 3/4x4 1/2	83-2600	71-2600	298	15.00	208-1300	950
DJXH	6-3 3/4x4 1/2	99-2600	84-2600	298	15.00	234-1400	930
DWXC	6-4x4 3/4	120-2600	102-2600	358	15.00	284-1600	1350
DWXD	6-4 1/4x4 3/4	135-2600	115-2600	404	15.00	320-1600	1350
DWXLD	6-4 1/4x5	142-2600	121-2600	426	15.00	333-1600	1350
(Bus) DWXLDF	6-4 1/4x5	142-2600	121-2600	426	15.00	319-1400	1325
DRXB	6-4 5/8x5 1/4	134-2200	114-2200	474	15.00	358-1200	1600
DRXC	6-4 5/8x5 1/4	147-2200	125-2200	529	15.00	395-1200	1600
DFXB	6-5x6	190-2100	162-2100	707	14.80	530-1350	2500
DFXC	6-5 1/4x6	204-2100	173-2100	779	14.80	585-1350	2500
DFXD	6-5 1/2x6	217-2100	184-2100	855	14.80	645-1200	2500
DFXE	6-5 5/8x6	228-2100	194-2100	895	14.80	680-1200	2600
DFXH	6-5 3/4x6	260-2100	221-2100	935	14.80	750-1200	2600
(Bus) DFXHF	6-5 3/4x6	260-2100	221-2100	935	14.80	750-1200	2575
DNX-V8	8-6 1/4x6	400-2100	340-2100	1468	14.80	1100-1200	4200
MACK							
END-510	6-4 7/16x5 1/2	138-2400	120-2400	510	14.92	368-1400	.....
END-672	6-4 7/8x6	165-2000	154-2000	672	14.62	480-1200	.....
ENDS672	6-4 7/8x6	200-2000	180-2000	672	13.18	585-1400	.....
SHEPPARD							
12D, E & F	6-4 1/4x5	100-2000	75-1800	426	18.0	325-1200	1790
WAUKESHA							
180DAC	4-3 7/16x3 3/4	35-2400	28-2400	129	17.00	90-1460	820
190DLC	6-3 5/8x4	64-2200	53-1800	265	15.3	184-1200	.....
135DK	6-4 1/4x5	136-2800	123-2800	426	17.50	320-1400	.....
148DK	6-5 1/4x6	168-2000	138-2000	779	17.5	530-1200	2150
6WAKD	6-6 1/4x6 1/2	225-1600	185-1600	1197	16.5	845- 900	3400

higher compression ratio, brake horsepower and torque.

†—Updraft carburetor.
††—Downdraft carburetor.

**—High output.

TRANSMISSION

TRANSMISSIONS MAKE AND MODEL	No. of Forward Speeds	Direct Drive on	GEAR RATIOS							Power Take-off, Opening
			Low	Second	Third	Fourth	Fifth	Reverse	High Reverse	
AUTOCAR										
DF-4, DFU-4	4	4	5.78	3.52	1.83	1.00	.....	7.23	.....	R-L
DF-5, DFU-5	5	4	5.78	3.52	1.83	1.00	.72	7.23	.....	R-L
TF-4, UTF-4	4	4	5.90	3.60	1.84	1.00	.....	7.37	.....	R-L
TF-5, UTF-5	5	4	5.90	3.60	1.84	1.00	.75	7.37	.....	R-L
BH-31 Aux.	3	2	1.33	1.00	.85	.....	.....	.....	.....	R
A-2 Aux.	2	2	1.47	1.00	.....	.....	.....	.....	.....	.....
BROWN-LIPE (1)										
*5331	3	3	3.80	1.91	1.00	.....	.....	4.24	.....	
3541	4	4	4.57	2.42	1.73	1.00	.....	4.07	.....	
3052	5	5	7.55	4.18	2.45	1.45	1.00	7.36	.....	R
3053	5	4	6.00	3.32	1.94	1.00	.793	5.84	.....	R
6241	4	4	6.63	3.19	1.70	1.00	.....	7.53	.....	R-L
6241-A	4	4	7.15	3.44	1.83	1.00	.....	8.13	.....	R-L
6241-B	4	4	4.32	2.67	1.67	1.00	.....	4.90	.....	.....
6241-C	4	4	3.90	2.42	1.50	1.00	.....	4.43	.....	R-L
6440	4	3	3.90	1.88	1.00	.754	.....	4.43	.....	R-L
7741	4	4	6.27	3.46	1.73	1.00	.....	8.15	.....	R-L
7741-A	4	4	7.10	3.90	1.95	1.00	.....	9.24	.....	R-L
7840	4	3	3.72	2.06	1.00	.77	.....	4.84	.....	R-L
7841	4	4	5.24	2.89	1.71	1.00	.....	6.81	.....	R-L
8041	4	4	6.25	3.47	1.75	1.00	.....	6.39	.....	R-L
8045	4	4	6.25	3.47	1.75	1.00	.....	6.39	.....	R-L
8241, 8245	4	4	5.19	2.88	1.72	1.00	.....	5.31	.....	R-L
8440, 8445	4	3	3.67	1.85	1.00	.77	.....	3.75	.....	R-L
8440-A 8445-A	4	3	3.67	1.85	1.00	.67	.....	3.75	.....	R-L
*4552	5	5	7.92	4.57	2.97	1.66	1.00	8.39	.....	R-L
*4552-A	5	5	6.93	4.00	2.31	1.45	1.00	7.34	.....	R-L
*4553	5	4	6.10	3.52	1.81	1.00	.77	6.46	.....	R-L
4553-A	5	4	6.10	3.30	1.81	1.00	.88	6.46	.....	R-L
4553-B	5	4	5.08	2.93	1.50	1.00	.83	5.37	.....	R-L
*6252	5	5	7.79	4.67	3.06	1.72	1.00	7.81	.....	R-L
*6252-A	5	5	6.07	3.41	1.79	1.34	1.00	6.09	.....	R-L
*6252-B	5	5	7.79	4.36	2.29	1.45	1.00	7.81	.....	R-L
*6252-C	5	5	6.07	3.65	2.38	1.34	1.00	6.09	.....	R-L
*6253	5	4	6.07	3.41	1.79	1.00	.78	6.09	.....	R-L
6253-A	5	4	6.07	3.41	1.79	1.00	.83	6.09	.....	R-L
*6752	5	5	5.08	2.85	1.78	1.33	1.00	5.10	.....	R-L
*6753	5	4	5.08	3.05	1.78	1.00	.69	5.10	.....	R-L
6352	5	5	7.30	4.09	2.41	1.43	1.00	7.32	.....	R-L
7751	5	4	6.27	3.46	1.73	1.00	.67	8.15	.....	R-L
7751-A	5	4	6.27	3.47	1.73	1.00	.83	8.15	.....	R-L
7851	5	4	5.24	2.89	1.71	1.00	.69	6.81	.....	R-L
7851-A	5	4	5.24	2.89	1.71	1.00	.79	6.81	.....	R-L
8051, 8055	5	4	6.25	3.47	1.75	1.00	.67	6.39	.....	R-L
8051-A, 8055-A	5	4	6.25	3.47	1.75	1.00	.83	6.39	.....	R-L
8251, 8255	5	4	5.19	2.88	1.72	1.00	.69	5.31	.....	R-L
8251-A 8255-A	5	4	5.19	2.88	1.72	1.00	.795	5.31	.....	R-L
5531-Aux.	3	2	2.00	1.00	.72	.....	.....	.....	.....	R-L
5531-A Aux.	3	2	1.52	1.00	.72	.....	.....	.....	.....	R-L
5531-B Aux.	3	2	2.36	1.00	.85	.....	.....	.....	.....	R-L
5531-C Aux.	3	2	1.28	1.00	.85	.....	.....	.....	.....	R-L
6231 Aux.	3	2	2.14	1.00	.69	.....	.....	.....	.....	R-L
6231-A Aux.	3	2	1.24	1.00	.86	.....	.....	.....	.....	R-L
6231-B Aux.	3	2	2.14	1.00	.86	.....	.....	.....	.....	R-L
6231-C Aux.	3	2	1.24	1.00	.69	.....	.....	.....	.....	R-L
6231-D Aux.	3	2	2.14	1.00	.74	.....	.....	.....	.....	R-L
6231-E Aux.	3	2	1.24	1.00	.74	.....	.....	.....	.....	R-L
6231-F Aux.	3	2	1.50	1.00	.86	.....	.....	.....	.....	R-L
703 Aux.	3	2	2.62	1.00	.75	.....	.....	.....	.....	R-L
703-A Aux.	3	2	1.25	1.00	.84	.....	.....	.....	.....	R-L
703-B Aux.	3	2	2.62	1.00	.84	.....	.....	.....	.....	R-L
703-C Aux.	3	2	1.25	1.00	.75	.....	.....	.....	.....	R-L
703-D Aux.	3	2	1.50	1.00	.75	.....	.....	.....	.....	R-L
703-E Aux.	3	2	2.29	1.00	.75	.....	.....	.....	.....	R-L
703-F Aux.	3	2	1.50	1.00	.84	.....	.....	.....	.....	R-L
8031-A 8035-A Aux.	3	2	2.59	1.00	.84	.....	.....	.....	.....	R-L
8031-B 8035-B Aux.	3	2	2.59	1.00	.79	.....	.....	.....	.....	R-L
8031-C 8035-C Aux.	3	2	2.59	1.00	.75	.....	.....	.....	.....	R-L
8031-D 8035-D Aux.	3	2	2.24	1.00	.84	.....	.....	.....	.....	R-L
8031-E 8035-E Aux.	3	2	2.24	1.00	.79	.....	.....	.....	.....	R-L
8031-F 8035-F Aux.	3	2	2.24	1.00	.75	.....	.....	.....	.....	R-L
8031-G 8035-G Aux.	3	2	1.29	1.00	.84	.....	.....	.....	.....	R-L
8031-H 8035-H Aux.	3	2	1.29	1.00	.79	.....	.....	.....	.....	R-L
8031-J 8035-J Aux.	3	2	1.29	1.00	.75	.....	.....	.....	.....	R-L
8031-K 8035-K Aux.	3	3	2.59	1.34	1.00	.....	.....	.....	.....	R-L
8031-L 8035-L Aux.	3	3	2.24	1.34	1.00	.....	.....	.....	.....	R-L

TRANSMISSIONS MAKE AND MODEL	No. of Forward Speeds	Direct Drive on	GEAR RATIOS							Power Take-off, Opening
			Low	Second	Third	Fourth	Fifth	Reverse	High Reverse	
CHEVROLET										
3-Speed	3	3	2.94	1.68	1.00	.....	.....	2.94	.....	No
4-Speed	4	4	7.06	3.58	1.71	1.00	.....	6.78	.....	L
CLARK										
142-T	3	.....	3.46	1.71	1.00	.....	.....	4.25	.....	R
186-F	4	.....	6.35	3.31	2.40	1.00	.....	7.54	.....	R-L
187-F	4	.....	5.00	2.61	1.89	1.00	.....	5.94	.....	R-L
204-V	5	.....	7.58	4.38	3.05	1.72	1.00	7.51	.....	R-L
204-VO	5	.....	6.06	3.50	1.80	1.00	.799	6.00	.....	R-L
207-VO	5	.....	6.06	3.50	1.80	1.00	.86	6.00	.....	R-L
208-V	5	.....	7.58	4.38	3.05	1.48	1.00	7.51	.....	L
231-F	4	.....	6.35	3.90	1.97	1.00	.....	7.41	.....	R-L
233-F	4	.....	6.35	3.38	1.73	1.00	.....	7.41	.....	R-L
271-T	3	.....	4.06	1.93	1.04	.....	.....	4.50	.....	No
290-V	5	.....	7.88	4.41	2.63	1.48	1.00	7.88	.....	R-L
290-VO	5	.....	7.00	3.93	1.90	1.00	.788	7.00	.....	R-L
291-V	5	.....	7.00	3.93	2.34	1.54	1.00	7.00	.....	R-L
330-F	4	.....	4.88	3.09	1.73	1.00	.....	4.06	.....	No
334-F	4	.....	4.35	2.75	1.71	1.00	.....	3.62	.....	No
333-V	5	.....	5.22	3.30	2.05	1.42	.98	4.45	.....	No
185-F	4	4	6.35	3.31	1.73	1.00	.....	7.54	.....	R-L
200-V	5	5	7.58	4.38	2.40	1.48	1.00	8.11	.....	R-L
200-VO	5	4	6.06	3.50	1.91	1.00	.799	4.87	.....	R-L
205-V	5	5	7.58	4.38	2.40	1.48	1.00	7.51	.....	R-L
205-VO	5	4	6.06	3.50	1.91	1.00	.799	6.00	.....	R-L
230-F	4	4	5.00	3.07	1.71	1.00	.....	5.83	.....	R-L
270-V	5	5	7.88	4.46	2.63	1.48	1.00	7.88	.....	R-L
270-VO	5	4	7.00	3.97	1.90	1.00	.788	7.00	.....	R-L
326-V	5	5	8.05	4.34	2.80	1.67	1.00	8.05	.....	R-L
326-VO	5	4	7.08	3.82	1.85	1.00	.768	7.08	.....	R-L
265-V-1	5	5	7.58	4.38	2.40	1.48	1.00	7.51	.....	.....
267-V-1	5	5	6.06	3.50	1.80	1.18	1.00	6.00	.....	.....
267-VO-1	5	4	6.06	3.50	1.80	1.00	0.86	6.00	.....	.....
DODGE										
N.P.-88490, 88840, 88770	3	3	3.3	1.78	1.00	.....	.....	4.3	.....	No
N.P.-89150, 88690, 88500, 88790, 39760	4	4	6.4	3.09	1.69	1.00	.....	7.82	.....	R
N.P.-88570, 88850	4	4	6.4	3.09	1.69	1.00	.....	7.61	.....	R
N.P.-88580, 88860, 88700, 88920	5	5	7.41	4.32	2.38	1.52	1.00	7.32	.....	R
N.P.-88730, 89180, 88740, 88910	5	4	6.25	3.64	1.89	1.00	.782	6.17	.....	R
N.P.-88220, 88450	5	5	7.58	4.38	2.39	1.48	1.00	7.51	.....	R-L
N.P.-88230, 88440	5	4	6.06	3.5	1.8	1.00	.799	6.0	.....	R-L
Clark-290V2	5	5	7.88	4.41	2.63	1.48	1.00	7.88	.....	R-L
Clark-290-V0	5	4	7.0	3.97	1.9	1.00	.788	7.0	.....	R-L
FORD										
21C-A	3	3	2.779	1.614	1.00	.....	.....	3.635	.....	No
8D-8J-8T	3	3	2.78	1.62	1.00	.....	.....	3.63	.....	No
51Y-A2-41T-A2	4	4	6.40	3.09	1.69	1.00	.....	7.820	.....	R
8MTH	4	4	6.40	3.09	1.69	1.00	.....	7.82	.....	R
7EQ	5	4	6.06	3.50	1.80	1.00	.799	6.00	.....	R-L
7EQH	5	5	7.58	4.38	2.40	1.48	1.00	7.51	.....	R-L
F.W.D.										
H	5	5	8.23	4.40	2.46	1.41	1.00	8.45	.....	R-L
H	5	4	5.82	3.13	1.75	1.00	.7264	6.07	.....	R-L
H-Aux.	2	2	1.25	1.00	.....	.....	.....	.....	.....	.....
H-Aux.	2	2	2.82	1.00	.....	.....	.....	.....	.....	.....
U. S.	5	5	9.95	5.81	3.15	1.85	1.00	8.97	.....	R-L
U-Aux.	2	2	1.25	1.00	.....	.....	.....	.....	.....	.....
U-Aux.	2	2	2.82	1.00	.....	.....	.....	.....	.....	.....
M	5	5	7.30	4.42	2.74	1.47	1.00	1.00	.....	R-L
M-Aux.	2	2	2.12	1.00	.....	.....	.....	.....	.....	.....
WG-T94	4	4	5.901	3.09	1.69	1.00	.....	7.213	.....	R
FULLER										
4A-86, 4A1-86	4	4	6.54	3.27	1.76	1.00	.....	7.24	.....	R-L
4B-86, 4B1-86	4	4	5.55	3.27	1.76	1.00	.....	6.58	.....	R-L
4A-860, 4A1-860	4	3	3.72	1.86	1.00	(a)	.....	4.12	.....	R-L
4A-112	4	4	6.54	(b)	1.76	1.00	.....	(c)	.....	R-L
5A-33, 5B-33	5	5	7.53	4.30	2.52	1.42	1.00	7.37	.....	(d)
5A-330, 5B-330	5	4	6.10	3.48	1.795	1.00	.768	5.96	.....	(e)
5A-43	5	5	8.03	4.61	2.46	1.41	1.00	8.00	4.71	R-L
5A-430	5	4	6.52	3.33	1.77	1.00	.771	6.50	3.33	R-L
5A-62	5	5	8.07	4.67	2.62	1.38	1.00	8.12	4.74	R-L
5A-620	5	4	7.07	3.50	1.72	1.00	.776	7.11	3.55	R-L
5A-65, 5C-65	5	5	8.08	4.67	2.62	(f)	1.00	8.12	4.74	R-L
5A-650, 5C-650	5	4	6.37	3.40	1.74	1.00	.788	6.40	3.35	R-L
5A-920, 5A-1120	5	4	6.54	(b)	1.76	1.00	(a)	6.49	.....	R-L
5C72	5	5	7.33	4.43	2.62	1.38	1.00	7.40	.....	R-L
5C720	5	4	6.37	3.40	1.74	1.00	.78	6.37	.....	R-L
10A-920, 10A-1120	10(g)	9	15.04	7.52	6.54	4.05	3.27	(g)	(g)	R-L
10B-920, 10B-1120	10(h)	8	8.59	6.54	4.04	3.08	2.31	(h)	(h)	R-L
4AM-86	4	4	6.54	3.27	1.76	1.00	.....	7.24	.....	R-L
4BM-86	4	4	5.55	3.27	1.76	1.00	.....	6.58	.....	R-L

RATIOS

TRANSMISSIONS MAKE AND MODEL	No. of Forward Speeds	Direct Drive on	GEAR RATIOS Low	Second	Third	Fourth	Fifth	Reverse	High Reverse	Power Take-off, Opening
FULLER—cont.										
4AM-860	4	3	3.72	1.86	1.00	(a)	.....	4.12	.....	R-L
5M-33	5	5	7.53	4.30	2.52	.42	1.00	7.37	.....	R-L
5M-330	5	5	6.10	3.48	1.795	1.00	.768	5.96	.....	R-L
5M-43	5	5	8.03	4.61	2.46	1.41	1.00	8.00	4.71	R-L
5M-430	5	4	6.52	3.33	1.77	1.00	.771	6.50	3.33	R-L
5M-62	5	5	8.07	4.67	2.62	1.38	1.00	8.12	4.74	R-L
5M-820	5	4	7.07	3.50	1.72	1.00	.776	7.11	3.55	R-L
5M-920	5	4	6.54	(b)	1.76	1.00	.744	6.49	.....	R-L
5-A-1120	5	4	6.54	3.27	1.76	1.00	.744	6.49	.....	R-L
5-F-1220	5	4	6.54	3.36	1.748	1.00	.744	5.06	.....	R-L
5-FS-1220	5	4	2.58	1.928	1.386	1.00	.747	3.035	.....	R-L
10-FA-65	10	10	18.57	10.73	8.08	6.02	4.67	18.66	8.12	R-L
10-FA650	10	9	14.64	7.822	6.37	3.99	3.404	14.71	6.40	R-L
10-FB-65	10	10	10.61	8.08	6.13	4.67	3.44	10.66	8.12	R-L
10-FB650	10	9	8.36	6.37	4.469	3.40	2.282	8.403	6.40	R-L
10-CA-65	10	10	18.57	10.73	8.08	6.02	4.67	18.66	8.12	R-L
10-CA650	10	9	14.66	7.82	6.37	3.99	3.404	14.71	6.40	R-L
10-CB-65	10	10	10.61	8.08	6.13	4.67	3.44	10.66	8.12	R-L
10-CB650	10	9	8.36	6.37	4.469	3.40	2.282	8.403	6.40	R-L
10-A-1120	10	9	15.04	7.52	6.54	4.05	3.27	14.93	6.49	R-L
10-B-1120	10	8	8.59	6.54	4.04	3.08	2.31	8.52	6.49	R-L
10-F-1220	10	8	6.526	4.97	3.923	2.985	2.296	5.029	3.83	R-L
R-95-C	10	10	9.70	7.45	5.82	4.49	3.55	12.50	3.52	R-L
UR	2	.....	1.00	.....	.....	.....	.....	1.00	.....	.....
UR-1.63	2	2	1.63	1.00	.....	.....	.....	.....	.....	.....
4-AMI-86	4	4	6.54	3.27	1.76	1.00	.....	7.24	.....	R-L
4-BMI-86	4	4	5.55	3.27	1.76	1.00	.....	6.58	.....	R-L
4-AMI860	4	3	3.72	1.86	1.00	.76	.....	4.12	.....	R-L
AR-Aux.	1	1	1.00	.....	.....	.....	.....	1.00	.....	.....
AR-1.63 Aux.	2	1	1.63	1.00	.....	.....	.....	.....	.....	.....
2A-62 Aux.	2	1	(n)	1.00	.....	.....	.....	.....	.....	.....
2B-62 Aux.	2	1	1.33	1.00	.....	.....	.....	.....	.....	.....
2A-92 Aux.	2	1	2.298	1.00	.....	.....	.....	.....	.....	.....
2B-92 Aux.	2	1	1.313	1.00	.....	.....	.....	.....	.....	.....
3A-65 Aux.	3	1	2.221	1.00	.754	.....	.....	.....	.....	R
3B-65 Aux.	3	1	1.239	1.00	.804	.....	.....	.....	.....	R
3A-92 Aux.	3	1	2.09	1.00	.754	.....	.....	.....	.....	R
3B-92 Aux.	3	1	1.235	1.00	.836	.....	.....	.....	.....	R
3T-92 Aux.	3	1	2.09	1.00	.754	.....	.....	.....	.....	(k)

TRANSMISSIONS MAKE AND MODEL	No. of Forward Speeds	Direct Drive on	GEAR RATIOS Low	Second	Third	Fourth	Fifth	Reverse	High Reverse	Power Take-off, Opening
STUDEBAKER										
673519, 679146, 679807	3	3	3.34	1.85	1.00	.....	.....	4.53	.....	.....
678564, 679226	4	3	3.34	1.85	1.00	.700	.....	4.53	.....	.....
680437, 680439	4	4	6.40	3.09	1.69	1.00	.....	7.82	.....	R
680438	4	4	5.90	3.09	1.69	1.00	.....	7.21	.....	R
WARNER										
T9	4	4	6.40	3.09	1.69	1.00	.....	7.82	.....	R
T9A	4	4	5.901	3.09	1.69	1.00	.....	7.213	.....	R
T9B	4	4	6.40	3.09	2.21	1.00	.....	7.82	.....	R
T9C	4	4	6.40	4.07	2.89	1.00	.....	7.82	.....	R
T87D	3	3	3.714	1.871	1.00	.....	.....	4.588	.....	No
T90A-T90C	3	3	2.798	1.551	1.00	.....	.....	3.798	.....	No
T90B	3	3	3.34	1.85	1.00	.....	.....	4.531	.....	No
T90D	3	3	3.339	1.851	1.00	.....	.....	4.531	.....	No
T90E	3	3	3.34	1.851	1.00	.....	.....	4.531	.....	No
T97	4	4	6.398	3.092	1.686	1.00	.....	7.820	.....	R
T98	4	4	6.398	3.092	1.686	1.00	.....	7.820	.....	R
WATSON										
41-Aux.	3	2	1.26	1.00	.830	.....	.....	.....	.....	Yes
42-Aux.	3	2	1.49	1.00	.830	.....	.....	.....	.....	Yes
43-Aux.	3	2	2.11	1.00	.830	.....	.....	.....	.....	Yes
44-Aux.	3	2	1.26	1.00	.750	.....	.....	.....	.....	Yes
45-Aux.	3	2	1.49	1.00	.750	.....	.....	.....	.....	Yes
46-Aux.	3	2	2.11	1.00	.750	.....	.....	.....	.....	Yes
47-Aux.	3	3	1.49	1.20	1.00	.....	.....	.....	.....	Yes
48-Aux.	3	3	2.11	1.20	1.00	.....	.....	.....	.....	Yes
WHITE										
424B	4	4	6.35	3.31	1.73	1.00	.....	.....	7.54	R
418B	4	4	6.35	3.38	1.73	1.00	.....	.....	7.41	R-L
502B	5	5	7.58	4.38	2.40	1.48	1.00	.....	7.51	R-L
552B	5	4	6.06	3.50	1.91	1.00	.799	.....	6.00	R-L
507B	5	5	7.88	4.41	2.63	1.48	1.00	.....	7.88	R-L
557B	5	4	7.00	3.93	1.90	1.00	.788	.....	7.00	R-L
506B	5	5	8.08	4.67	2.62	1.38	1.00	.....	8.12	R-L
556B	5	4	6.37	3.40	1.74	1.00	.788	.....	6.40	R-L

ABBREVIATIONS

(1)—Spicer Mfg. Co. *—Transmissions Synchronized.
L—Left side opening. R—Right side opening.
R-L—Right and left side openings.
(a)—Optional overdrive .76 or .65 to one.
(b)—Optional second gear 3.27 or 3.08 to one.
(c)—Optional low reverse 6.49 or 5.06 to one.
(d)—Right side only on Model 5A-33—Right and left side on 5B-33.
(e)—Right side only on Model 5A-330—Right and left side on 5B-330.
(f)—Optional fourth gear 1.38 or 1.69 to one.
(g)—Ratios beyond fifth gear as follows: 6th, 2.30; 7th, 1.76; 8th, 1.462 or 1.711; 9th, 0.00; 10th, 6.36 or .744; Low Rev., 14.93 or 11.64; High Rev., 6.49 or 5.06.
(h)—Ratios beyond fifth gear as follows: 6th, 1.76; 7th, 1.31; 8th, 1.00; 9th, .835 or .976; 10th, .636 or .744; Low Rev., 8.52 or 6.64; High Rev., 6.49 or 5.06.
(k)—Front or Rear—Full Torque.
(m)—8.12 and 4.74.
(n)—1.58 or 2.00.

Transportation Engineering Formulas

PISTON DISPLACEMENT

Piston Displacement in cu. in. = B × B × .7854 × S × No. of Cylinders

B = Bore
S = Stroke

.7854 = Constant comprising the conversion of the area of a square to the area of a circle of the same dimensions

VEHICLE SPEED

$$MPH = \frac{RPM \times R}{168 \times FGR}$$

MPH = Miles Per Hour
RPM = Engine Revolutions Per Minute
R = Rolling Radius in Inches
FGR = Final Gear Ratio
168 = A constant comprising the conversion of rolling radius in inches to wheel circumference in feet; wheel revolutions per minute to wheel revolutions per hour; feet per hour to miles per hour

HORSEPOWER

Maximum Net Horsepower (maximum gross horsepower less power consumed by engine accessories) is the only horsepower that should be used in transportation engineering formulas, and can be determined only by using a dynamometer or may be procured from the manufacturer

MAX. NET ENGINE TORQUE

Torque in lb. ft. = .80 × cu. in. Piston Displacement. (This is approximate and should be used only when actual torque is not known)

.80 = Average figure based on analysis of a number of torque curves.

AMA HORSEPOWER

(For License Purposes Only)

$$AMA\ HP = \frac{B \times B \times No.\ of\ Cyl.}{2.5}$$

B = Cylinder Bore
2.5 = Constant based on average engine in 1908

MAXIMUM NET TORQUE

$$Max.\ Net\ Torque = \frac{Torque\ at\ Peak\ HP \times 5}{4}$$

(This is approximate and should be used only when actual net torque is not known.)

5 and 4 = Figures based on an analysis of a number of torque curves

TORQUE AT PEAK HP

$$Torque\ at\ Peak\ HP = \frac{HP \times 5252}{RPM}$$

5252 = Constant resulting from the conversion of torque and RPM into horsepower

HP = Maximum net horsepower (See Horsepower formula)

Peak HP = Maximum useful horsepower

Specifications for

THIRD AXLES

and

TRAILER SUSPENSIONS

NOTES ON HEADINGS

Column 2. The capacity of the third axle is not to be confused with the total capacity made possible on the converted vehicle.

Column 3. The price of the unit includes the standard brakes specified in brake column and frame extensions that extend forward under the cab. Tires and brake (air or vacuum) power are not included in price nor is the cost of installation.

Column 4. Weight of third axle unit includes all appurtenances and maximum tires.

Column 15 gives brake lining area of attachment unit only.

ABBREVIATIONS

COLUMN 9

Chev—Chevrolet
Shu—Shuler
Tim—Timken
Wag—Wagner Hi-Tork

COLUMN 10

D—Driving
Re—Rectangular
SF—Standard Forge
Sr—Solid round
Sq—Square
T—Tubular

COLUMN 12

A—Air
B—Bendix
C—Chevrolet
E—Duaload
F—Ford
H—Hydraulic
L—Lockheed
M—Mechanica
O—Own
V—Vacuum Power
W—Westinghouse

COLUMN 13—CA—Cast Alloy Iron

‡‡—On application.

**—Equipped with gravity spring suspension.

(w)—New pusher-type axle recently introduced by Detroit Automotive Products Corp.

(x)—Patented 4-wheel chain drive available for all Trucktor units.

(y)—All Truxmore units equipped with radius rods on driving axle and load distribution may be adjusted within limits shown in cols. 6 & 7.

(z)—Depends upon installation.

Note 1. Two-axle self-steering undercarriage uses any standard trailer axle.

*—Chains and sprockets available—optional at extra charge.

(a)—Long slip-spline joint supplied for drive axle in place of radius rods.

(c) (d)—
Own—square
Timken—round
Shuler—round
Fruehauf—I-Beam
Std. Forge—round

(e)—Depends upon manufacturer.

(f)—Optional equipment.

(g)—Round, square or I-sectional axles can be used.

THIRD AXLE MAKE AND MODEL and Truck Model Adapted to — Trailing Axles	Capacity (Lb.) See Explanatory Notes	Price (f. o. b. factory)	Weight (Lb.) with Max. Tires, Frame Extension, Etc.	Maximum Tire Size	LOAD DISTRIBUTION RANGE (First Figure or combination applies to center axle; second figure to third axle)		Axle Spacing (in inches) (with maximum tires)	AXLE DATA			BRAKES (Standard)				Number of Points of Frame Support	Spring Size or Number Leaves Added	Spindle Diameter (at inner bearing)
								Make	Type	Size	Make and Type	Drum Material	Brake Diameter and Width	Lining Area			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
FABCO																	
220 (Ford)	11000	‡‡	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	15x3½	192	2	48x2½	2¾
220 (Chevrolet)	11000	‡‡	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	15x3½	192	2	48x2½	2¾
220 (All other makes)	11000	‡‡	2000	8.25/20	52-48	.....	44	Tim	T	4½	LH	CA	16x3½	205	2	48x2½	2¾
330 (All other makes)	13000	‡‡	3000	10.00/20	52-48	.....	48	Tim	T	4½	LH	CA	16x3½	205	2	48x3	2⅞
325 (Ford F-7)	13000	‡‡	3000	9.00/20	52-48	.....	44	Tim	SF	4½	M	CA	16½x5	325	2	48x3	3
330 (Ford F-8)	13000	‡‡	3000	10.00/20	52-48	.....	48	Tim	SF	4½	M	CA	16½x5	325	2	48x3	3
400 (All other makes)	18000	‡‡	3200	11.00/20	55-45	.....	52	Tim	T	5	M	CA	16½x7	435	2	56x4	3¼
FRAZIER																	
10E Tandem	9000	‡‡	1000	9.00/20	54-48	.....	42	Tim	T	4½	Tim	CA	16½x4	290	6	None	2¾
12E Tandem	18000	‡‡	1450	10.00/20	54-46	.....	44	Tim	T	4½	Tim	CA	16½x5	362	6	None	2¾
14E Tandem	18000	‡‡	2600	11.00/22	54-46	.....	48	Tim	T	5	Tim	CA	16½x6	434	6	None	3¼
GRICO SUPER-FLEX																	
T-1300	12000	‡‡	2360	9.00	50-50	.....	48	Shu	T	4½	H	CA	16x4 or 5	340	2	4, 18	....
T-1400	14000	‡‡	2640	10.00	50-50	.....	48	Shu	T	4½	H	CA	16x5	410	2	4, 18	....
T-1410	14000	‡‡	2640	10.00	50-50	.....	48	Shu	T	4½	A	CA	16½x6	434	2	.....	....
T-1600	16000	‡‡	2815	11.00	50-50	.....	48	Shu	T	5	A-V	CA	16½x6	444	2	4, 18	....
T-1610	16000	‡‡	2815	11.00	50-50	.....	48	Shu	T	5	A-V	CA	16½x7	512	2	4, 18	....
LITTLE GIANT																	
A	11000	.....	1920	8.25/20	53-47	47	42	Own(g)	Sq	2¾	WagH	CA	15x4	253.5	2	42x2½	2¾
					50-50	49(f)	49									49x2½(f)	
B	13000	.....	2450	9.00/20	50-50	44	44	Own(g)	Sq	3	WagH	CA	16x4	270.7	2	44x3	2¾
					50-50	49(f)	49									49x3(f)	
C	15000	.....	2850	10.00/20	50-50	44	44	Own(g)	Sq	3¼	WagHA	CA	16x5	338	2	44x3½	3⅛
					50-50	49(f)	49									49x3½(f)	
D	18000	.....	3050	11.00/20	50-50	49	49	Own(g)	Sq	3½	WagHA	CA	16x6	406	2	49x3½	3¼
LOAD BOOSTER																	
LB28C Chev. 1½ & 2 ton	14000	.....	2100	9.00/20	50-50	.....	48	Own	Sq	3	VH	CA	15x4	251	4	48x2½	2⅝
LB28F Ford F5 & F6	14000	.....	2100	9.00/20	50-50	.....	48	Own	Sq	3	VH	CA	15x3½	203	4	48x2½	2⅝
LB38F Ford F7 & F8	16000	.....	2600	10.00/20	50-50	.....	48	Own	Sq	3½	VH or A	CA	16x5	345	4	48x2½	3¼
LB28D Dodge 1½ & 2 Ton	14000	.....	2100	9.00/20	50-50	.....	48	Own	Sq	3	VH	CA	16x4	280	4	48x2½	2¾
LB38D Dodge 2½ 3 ton	16300	.....	2600	10.00/20	50-50	.....	48	Own	Sq	3½	VH or A	CA	16x4 or 5	280	4	48x2½	3¼
LB28V Various 1½ & 2 ton	14000	.....	2100	9.00/20	50-50	.....	48	Own	Sq	3	VH	CA	16x4	280	4	48x2½	2¾
LB38V Various 2½ & 3 ton	16000	.....	2600	10.00/20	50-50	.....	48	Own	Sq	3½	VH or A	CA	16x4 or 5	280	4	48x2½	3¼
SIX WHEELS, INC. "MAXI" (*)																	
GF-1 (All Makes)	13000	(z)	1700	7.50/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GF-2 (All Makes)	13000	(z)	1750	8.25/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GF-3 (All Makes)	13000	(z)	1800	9.00/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GFS-1 (All Makes)	15000	(z)	1850	9.00/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GFS-2 (All Makes)	15000	(z)	1850	9.00/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GFS-3 (All Makes)	15000	(z)	1850	10.00/20	55-45	.....	45	Var	T	4½	Var	Var	Var	Var	2	45x3½	Var
GH-1 (All Makes)	16000	(z)	2000	10.00/20	55-45	.....	45	Var	T	5	Var	Var	Var	Var	2	45x3½	Var
GH-2 (All Makes)	16000	(z)	2000	10.00/22	55-45	52-48	45	Var	T	5	Var	Var	Var	Var	2	45x3½	Var
GH-3 (All Makes)	16000	(z)	2000	11.00/20	55-45	52-48	45	Var	T	5	Var	Var	Var	Var	2	45x3½	Var
GHS-1 (All Makes)	18000	(z)	2250	10.00/22	52-48	.....	48	Var	T	5	Var	Var	Var	Var	2	48x3½	Var
GHS-2 (All Makes)	18000	(z)	2250	11.00/20	52-48	.....	48	Var	T	5	Var	Var	Var	Var	2	48x3½	Var
GHS-3 (All Makes)	18000	(z)	2250	11.00/22	52-48	.....	48	Var	T	5	Var	Var	Var	Var	2	48x3½	Var
GHS-4 (All Makes)	18000	(z)	2250	11.00/24	52-48	.....	48	Var	T	5	Var	Var	Var	Var	2	48x3½	Var
TRAILMOBILE																	
CTA-32 (All trucks 2 to 4½ ton)	11000	‡‡	2073	11.00/22	58-42	.....	48	Tim	T	4½	Tim	CA	16½x6	434	4	None	2¾
CTA-42 (All heavy-duty trucks)	13000	‡‡	2263	11.00/22	58-42	.....	48	Tim	T	5	Tim	CA	16½x6	434	4	None	3¼
TRUCK EQUIPMENT CO. (E)																	
825-C Chev. 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	44	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
825-F Ford 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	44	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
825-X any 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	44	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
825-CL Chev. 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	48¼	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
825-FL Ford 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	48¼	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
825-XL Ford 1½-2 ton	12000	‡‡	2400	8.25/20	53-47	62-38	48¼	Own	Sq	2¾	H	CA	15x3½	200	4	(a)	2¾
TRUCKTOR (x)																	
HLL (Ford 1½-ton)	8800	1000	1750	7.50/20	53-47	.....	45	Own	Sr	3	LHV	CA	15x3½	198	6	38½x2½	2⅝
HLL (Chevrolet 1½-ton)	8800	1000	1750	7.50/20	53-47	.....	45	Own	Sr	3	LHV	CA	16x3	219	6	38½x2½	2⅝
HLL (Light trucks, tires to 8.25x20)	11000	1000	1895	8.25/20	53-47	.....	45	Own	Sr	3	LHV	CA	16x2¼	132	6	38½x2½	2⅝
HLS (Medium trucks, tires to 9.00x20)	14000	1420	2265	9.00/20	53-47	.....	46	Own	Sr	3¼	LHV	CA	16x3½	265	6	38½x3	2¾
HLS (Ford F-7) tires to 9.00x20	14000	1420	2265	9.00/20	53-47	.....	46	Own	Sr	3¼	LHV	CA	16¼x3½	218	6	38½x3	2¾

THIRD AXLE MAKE AND MODEL and Truck Model Adapted to	Capacity (Lb.) See Explanatory Notes	Price (f. o. b. factory)	Weight (Lb.) with Max Tires, Frame Extension, Etc.	Maximum Tire Size	LOAD DISTRIBUTION RANGE (First Figure or combination applies to center axle; second figure to third axle)		Axle Spacing (in inches) (with maximum tires)	AXLE DATA			BRAKES (Standard)				Number of Points of Frame Support	Spring Size or Number Leaves Added	Spindle Diameter (at inner bearing)
								Make	Type	Size	Make and Type	Drum Material	Brake Diameter and Width	Lining Area			
Trailing Axles—cont.																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
TRUCKTOR (x)—cont.																	
HLR (Heavy truck, tires to 10.00x20)	16000	1850	2710	10.00/20	53-47	.....	48	Own	Sr	3½	WAM	CA	16½x6	251	6	40x3	2½
HLR (Ford F-8, tires to 10.00x20)	16000	1080	2710	10.00/20	53-47	.....	48	Own	Sr	3½	LHV	CA	16x5	335	6	40x3	2½
HR (Heavy-duty, tires to 12.00x20)	21000	2020	3177	11.00/24	53-47	.....	52	Own	Sr	4	WAM	CA	16½x8	251	6	41½x3	3⅝
HR-5 (Extra heavy-duty)	30000	‡‡	3358	12.00/24	53-47	.....	53½	Own	Sr	5½	WAM	CA	17¼x5½	380	6	43½x4	3½
TRUXMORE (y)																	
280 Series	12000	‡‡	2700	8.25/20	53-47	62-38	44½-48	Own	Sq	2¾	H	CA	15x3½	200	4	••	2½
340 (Standard)	14000	‡‡	3100	9.00/20	50-50	58-42	47-48	Own	Sq	3	H	CA	16x3½	210	4	••	2½
340HT (Hi-tork brake)	14000	‡‡	3200	9.00/20	50-50	58-42	47-48	Own	Sq	3	H	CA	16x5x⅜	340	4	••	2½
340A (Air brake)	14000	‡‡	3300	9.00/20	50-50	58-42	47-48	Own	Sq	3	MW	CA	16½x4x¾	305	4	••	2½
400 (Hi-tork Hyd. brake)	16000	‡‡	3600	10.00/20	51-49	60-40	48-49	Own	Sq	3¼	H	CA	16x6x⅜	340	4	••	3⅛
400 (Oversize brake)	16000	‡‡	3650	10.00/20	51-49	60-40	48-49	Own	Sq	3¼	H	CA	16x6x⅜	410	4	••	3⅛
400A (Air brake)	16000	‡‡	3700	10.00/20	51-49	60-40	48-49	Own	Sq	3¼	MW	CA	16½x5x¾	380	4	••	3⅛
450 (Hi-tork Hyd. brake)	18000	‡‡	3900	11.00/20	51-49	60-40	49-50	Own	Sq	3¼-3½	H	CA	16x6x⅜	410	4	••	3¼
450A (Air brake)	18000	‡‡	3950	11.00/20	51-49	60-40	49-50	Own	Sq	3¼-3½	MW	CA	16½x6x⅜	455	4	••	3½
50H (Hyd. brake)	20000	‡‡	4200	11.00/24	50-50	65-35	49-53	Own	Sq	3½	H	CA	17¼x5x¾	360	4	••	3½
50A (Air brake)	20000	‡‡	4300	11.00/24	50-50	65-35	49-53	Own	Sq	3½	MW	CA	17¼x5½x	410	4	••	3½
UTILITY																	
25 (For any 1½-2 ton truck)	9000	‡‡	1330	8.25/20	55-45	.....	41	Own	Sq	2½	BH†	CA	16x3½	230	4	None	2¼
30 (For any 3½-ton truck)	13000	‡‡	1880	10.00/20	55-45	68/33	44	Own	Sq	3	BH†	CA	17x4	270	4	None	2¾
35 (For any 5-ton truck)	18000	‡‡	2285	11.00/24	55-45	68/33	50	Own	Sq	3½	OMV†	CA	16x5	300	4	None	3
Driving Axles																	
FABCO																	
520 Ford	10500	(z)	2400	8.25/20	50-50	.....	44	Tim	D	.....	FH	CA	15x3½	192	2	48x2½	2⅝
520 (Chevrolet with H. D. Axles)	10500	(z)	2400	8.25/20	50-50	.....	44	Chev	D	.....	CH	CA	16x3	176	2	48x2½	2⅝
520 (All other makes)	10500	(z)	2400	8.25/20	50-50	.....	44	Match	D	.....	LH	CA	Match	(z)	2	48x2½	2
630 (All other makes)	13000	(z)	3000	10.00/20	50-50	.....	48	Match	D	.....	LH	CA	Match	(z)	2	53x3	2
625 (Ford F-7)	14000	(z)	3200	10.00/20	50-50	.....	44	Ford	D	.....	FH	CA	15x5	444	2	48x3	3
630 (Ford F-8)	16000	(z)	3600	10.00/20	50-50	.....	48	Ford	D	.....	FH	CA	16x5	(z)	2	53x3	3
800 (H. D. Trucks)	20000	(z)	4000	11.00/20	50-50	.....	52	Match	D	.....	FH	CA	.....	(z)	2	56x4	....
THORNTON DRIVE																	
A3C26 Chev. 1½ ton	11250	.....	3200	8.25/20	50-50	.....	48	Chev 1S	D	3½	VH	CA	15x4	251	4	48x2½	2⅝
A4C29 Chev. 2 ton	12500	.....	3300	8.25/20	50-50	.....	48	Chev 1S	D	4	VH	CA	15x4	251	4	48x2½	2⅝
A2C29 Chev. 2 ton	12750	.....	3300	8.25/20	50-50	.....	48	Chev 2S	D	4¼	VH	CA	15x3½	203	4	48x2½	2⅝
A9D29 Dodge FA, KA, JA	12750	.....	3300	8.25/20	50-50	.....	48	Dodge2S	D	4¼	VH	CA	16x3	216	4	48x2½	2½
A8D34 Dodge KA, KMA	14250	.....	3600	9.00/20	50-50	.....	52⅝	Dodge2S	D	4½	VH	CA	16x3	216	4	48x2½	3
A1F28 Ford F5	11250	.....	3200	8.25/20	50-50	.....	48	Ford 1S	D	3¾	VH	CA	15x3½	203	4	48x2½	2⅝
A2F29 Ford F6	12750	.....	3300	8.25/20	50-50	.....	48	Ford 2S	D	4¼	VH	CA	15x3½	203	4	48x2½	2⅝
A14F38 Ford F8	16500	.....	3800	10.00/20	50-50	.....	52⅝	Ford 2S	D	5⅛	VH	CA	16x5	345	4	48x2½	3¼
A15F38 Ford F8	16500	.....	3700	10.00/20	50-50	.....	52⅝	Ford 1S	D	5⅛	VH	CA	16x5	345	4	48x2½	3¼
A2 Various	12750	.....	3800	8.25/20	50-50	.....	48	Eaton 2S	D	5⅛	VH	CA	15x3½	203	4	48x2½	2⅝
A6 Various	14250	.....	3700	9.00/20	50-50	.....	52⅝	Eaton 2S	D	4½	VH	CA	15x4	251	4	48x2½	3
A14 Various	16500	.....	3800	10.00/20	50-50	.....	52⅝	Eaton 2S	D	5⅛	VH or A	CA	16x5	345	4	48x2½	3¼
415 Various	16500	.....	3700	10.00/20	50-50	.....	52⅝	Eaton 2S	D	5⅛	VH or A	CA	16x5	345	4	48x2½	3¼
Trailer Suspensions																	
FRAZIER																	
10E Tandem	30000	‡‡	.....	12.00/22	50-50	.....	50	Tim	T	5	Tim	CA	16½x6	434	8	42x3	....
12E Tandem	36000	‡‡	.....	12.00/22	50-50	.....	50	Tim	T	5	Tim	CA	16½x7	435	8	42x3	....
14E Tandem	48000	‡‡	.....	12.00/22	50-50	.....	53	Tim	T	SR	Tim	CA	16½x7	435	8	42x3	....
HOOBLER																	
AT-48 (Note 1)	48000	‡‡	6100	11.00/22	50-50	.....	108¾	Note 1	Note 1	Var	Var	Var	Var	Var	2	42x4	Var
LITTLE GIANT																	
(Tandem conversions for single axle trailers)	18000	‡‡	.....	11.00/20	50-50	.....	50	(c)	(d)	(e)	(e)	CA	16½x6	.....	6	.....	3¼
NEWAY (Tandem)																	
330	30000	.....	.....	11.00/20	50-50	.....	48	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
334	34000	.....	.....	11.00/20	50-50	.....	48	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
336	36000	.....	.....	11.00/20	50-50	.....	48	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
344	44000	.....	.....	11.00/20	50-50	.....	48	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
402	44000	.....	.....	11.00/20	50-50	.....	48	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
828	28000	.....	.....	11.00/22	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
832	32000	.....	.....	11.00/22	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
836	36000	.....	.....	11.00/22	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
842	42000	.....	.....	11.00/22	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
942	42000	.....	.....	11.00/22	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
946	46000	.....	.....	12.00/20	50-50	.....	50½	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
1502	40000	.....	.....	11.00/24	50-50	.....	53	Var	Var	Var	Var	Var	Var	Var	2	Var	Var
TRUCKTOR																	
T-11 (Single)	11000	‡‡	2000	8.25/20	.....	.....	.....	Own	Sr	3	LHV	CA	16x3½	238	4	56	....
T-14 (Single)	14000	‡‡	2300	9.00/20	.....	.....	.....	Own	Sr	3¼	LHV	CA	17¼x4	251	4	56	....
T-16 (Single)	16000	‡‡	2600	10.00/20	.....	.....	.....	Tim	T	5	MA	CA	16½x8	438	4	56	....
T-18 (Single)	18000	‡‡	2750	11.00/20	.....	.....	.....	Tim	T	5	MA	CA	16½x7	512	4	56	....
T-20 (Single)	20000	‡‡	2900	11.00/22	.....	.....	.....	Tim	T	5½	MA	CA	16x7	450	4	56	....
T-25 (Single)	25000	‡‡	3750	12.00/24	.....	.....	.....	Ow-Tim	Opt	6	MA	CA	16x7	450	4	56	....
TT-14 (Tandem)	28000	‡‡	4800	9.00/20	50-50	.....	48	Own	Sr	3	MA	CA	17¼x4	251	8	45½	....
TT-16 (Tandem)	32000	‡‡	5000	10.00/20	50-50	.....	50	Tim	T	5	MA	CA	16½x8	438	8	46½	....
TT-18 (Tandem)	36000	‡‡	5200	11.00/20	50-50	.....	50	Tim	T	5	MA	CA	16½x7	512	6	46¼	....
TRUXMORE (y) Tandem conversions																	
280 Series	12000	‡‡	2700	8.25/20	53-47	62-38	44¼-48	Own	Sq	2¾	H	CA	15x3½	200	4	••	2½
340 (Standard)	14000	‡‡	3100	9.00/20	50-50	58-42	47-48	Own	Sq	3	H	CA	16x3½	210	4	••	2½
340HT (Hi-tork brake)	14000	‡‡	3200	9.00/20	50-50	58-42	47-48	Own	Sq	3	H	CA	16x5x⅜	340	4	••	2½
340A (Air brake)	14000	‡‡	3300	9.00/20	50-50	58-42	47-48	Own	Sq	3	MW	CA	16½x4x¾	305	4	••	2½
340AT	16000	‡‡	3400	10.00/20	50-50	58-42	48-49	Own	Sq	3¼	MW	CA	16½x5x¾	380	4	••	3⅛
400 (Hi-tork Hyd. brake)	16000	‡‡	3600	10.00/22	51-49	60-40	48-49	Own	Sq	3¼	H	CA	16x6x⅜	340	4	••	3⅛
400 (Oversize brake)	16000	‡‡	3650	10.00/22	51-49	60-40	48-49	Own	Sq	3¼	H	CA	16x6x⅜	410	4	••	3⅛
400A (Air brake)	16000	‡‡	3700	10.00/22	51-49	60-40	48-49	Own	Sq	3¼	MW	CA	16½x5x¾	380	4	••	3⅛
450 (Hi-tork Hyd. brake)	18000	‡‡	3900	11.00/22	51-49	60-40	49-50	Own	Sq	3¼-3½	H	CA	16x6x⅜	410	4	••	3¼
450A (Air brake)	18000	‡‡	3950	11.00/22	51-49	60-40	49-50	Own	Sq	3¼-3½	MW	CA	16½x6x¾	455	4	••	3½
50H (Hyd. brake)	20000	‡‡	4200	11.00/24	50-50	65-35	49-53	Own	Sq	3½	H	CA	17¼x5x¾	360	4	••	3½
50A (Air brake)	20000	‡‡	4300	11.00/24	50-50	65-35	49-53	Own	Sq	3½	MW	CA	17¼x5½x	410	4	••	3½
UTILITY																	
SWX-10 (Tandem)	30000	‡‡	.....	10.00/22	50-50	.....	50	Own	Re	.....	.....	CA	6 in	210	6	10-3 in	....
SWX-12 (Tandem)	36000	‡‡	.....	11.00/22	50-50	.....	50	Own	Re	.....	.....	CA	10 in	330	6	11-3 in	....
SWX-15 (Tandem)	44000	‡‡	.....	12.00/24	50-50	.....	52	Own	Re	.....	.....	CA	10 in	330	6	12-3 in	....

1951 BUS SPECIFICATIONS

Line Number	BUS MAKE AND MODEL	GENERAL								ENGINE										Oiling System
		Passenger Rating	Type (City Service, Parlor, etc.)	Standard Wheelbase (In.)	Overall Length (In.)—Bumper to Bumper	Inside Length (In.)—Passenger Compartment	Tread (In.)—Front and Rear	Complete Vehicle Weight—Dry (Lb.)	Standard Tire Size (In.)—Front and Rear	Make and Model	Cycle and Fuel	Location	Number of Cylinders—Bore and Stroke (In.)	Displacement (Cu. In.)	Rated Horsepower (A.M.A.)	Maximum Brake Hp. at Governed R.P.M.	Maximum Net Torque (Lb. Ft.) at Specified R.P.M.	Compression Ratio—to 1	Compression Pressure—(Lb.) at Specified R.P.M.	Valve Arrangement	Pressure to—
1	ACF-Brill.....IC-41A	37–41	IC	270	419½	408	80½–71¼	20000	11.00/22	HS....190-2	4-G	UF	6–5¼x6	779	66.2	220–2200	625–1300	5.60	.....	I	acdfg
2	.....C-27	27	CS	163	311	296	82¼–74	10600	8.25/20	Int...RD-372	4-G	TR	6–4⅜x4½	372	45.9	140–2850	282–1200	6.30	.....	I	acdfg
3	.....C-31	31	CS	196	344	329	81¾–74	11300	9.00/20	Int...RD-406	4-G	TR	6–4⅝x4½	406	45.9	148–2750	319–1200	6.30	.....	I	acdfg
4	.....C-40	40	CS	212	389½	376	79⅞–71	14700	10.00/22	HS.....504	4-G	UF	6–4⅝x5	504	51.4	170–2600	408–1600	6.00	.....	I	acdfg
5	.....C-44	44	CS	249	420	407	80¼–71	17500	11.00/22	HS....180-1	4-G	UF	6–5x6	707	60.0	208–2200	540–1200	6.00	.....	I	acdfg
6	.....C-44	45	Sub	249	420	407	80¼–71	18900	11.00/22	HS....190-2	4-G	UF	6–5¼x6	779	66.2	220–2200	625–1300	5.60	.....	I	acdfg
7	.....C-48	48	CS	247	474	462	88⅛–74¼	19200	12.00/20	HS....190-2	4-G	UF	6–5¼x6	779	66.2	220–2200	625–1300	5.60	.....	I	acdfg
8	Aerocoach.....373	37	IC	229	407¾	389	80¾–72½	16500	10.00/20	Cont...U6501	4-G	TR	6–4½x5¼	501	48.6	170–2400	380–1200	6.14	.....	I	abcdf
9	Beaver.....27PT	29	CS	150⅝	312	153	79–65⅛	11800	8.25/20	Dodge Ind. &	4-G	TR	6–3⅞x4½	251	28.5	.....	.....	.....	.....	I	abcd
10	.....B-35PT	37	CS	195⅝	372	192	81–71½	13500	9.00/20	Int....RD450	4-G	TR	6–4⅝x5	451	56.0	152–2600	358–1200	6.30	122–160	I	abcd
11	Beck.....29	29	IC	217½	402	288	80⅛–69¾	.....	10.00/20	Cum. JBS600	4-D	R	6–4½x5	401	40.6	150–2500	360–1400	....	.....	I	abcd
12	.....Mainliner	33	IC	220	396	323	81¼–69¾	.....	10.00/20	Int...RED450	4-G	R	6–4⅜x5	450	45.9	140–2400	350–1000	6.30	.....	I	abcdfg
13	.....Mainliner Series II	37	IC	220	420	350	80¼–71½	.....	11.00/20	I-C....R6586	4-G	R	6–4⅛x5⅝	586	55.6	200–2600	475–1000	6.00	120–150	I	abcd
14	.....Luxury Liner	37	IC	220	420	356	80¼–71½	.....	11.00/20	Cum.HRB600	4-D	R	6–5½x6	743	63.1	165–1800	540–1000	15.50	.....	I	abcd
15	Cub.....16-S	16	IC	158	271	197	61¼–60¼	5960	7.00/18	Ford....9H-J	4-G	Fr	6–3.3x4.4	226	26.4	95–3300	180–1200	6.80	110–60	L	acd
16	.....23-S	23	IC	158	275	201	80¼–67	7420	7.50/18	Ford...9NW	4-G	Fr	6–3.3x4.4	226	26.4	95–3300	180–1200	6.80	110–60	L	acd
17	.....19-T	19	CS	158	271	197	61¼–60¼	5960	7.00/18	Ford....9H-J	4-G	Fr	6–3.3x4.4	226	26.4	95–3300	180–1200	6.80	110–60	L	acd
18	.....25-T	25	CS	158	275	201	80¼–67	7420	7.50/18	Ford...9NW	4-G	Fr	6–3.3x4.4	226	26.4	95–3300	180–1200	6.80	110–60	L	acd
19	Fitzjohn.....Cityliner	33–35	CS	165¼	334	320	82¾–69¾	12000	10.00/20	Her....JXLD	4-G	Fr	6–4x4½	339	38.4	131–3000	272–1400	7.00	.....	L	abcdg
20	.....Duraliner	28	IC	185¾	321¾	286	77¾–65¼	12000	9.00/20	Her....JXLD	4-G	Fr	6–4x4½	339	38.4	131–3000	272–1400	7.00	.....	L	abcdg
21	Flexible.....218B1-51	29	IC	218	395½	288	80⅛–69¾	15175	9.00/20	Bui....FB320	4-G	R	6–3⅞x4⅛	320	37.8	144–3400	278–2200	6.30	.....	I	acdf
22	.....218B2-51	23	IC	218	395½	288	80⅛–69¾	.....	9.00/20	Bui....FB320	4-G	R	6–3⅞x4⅛	320	37.8	144–3400	278–2200	6.30	.....	I	acdf
23	.....218B6-51	29	IC	218	395½	288	80⅛–69¾	.....	9.00/20	Bui....FB320	4-G	R	6–3⅞x4⅛	320	37.8	144–3400	278–2200	6.30	.....	I	acdf
24	.....218B7-51	37	IC	218	395½	329½	80⅛–69¾	15100	9.00/20	Bui....FB320	4-G	R	6–3⅞x4⅛	320	37.8	144–3400	278–2200	6.30	.....	I	acdf
25	.....182B1-51	25	IC	182	359½	252	80⅛–69¾	14600	9.00/20	Bui....FB320	4-G	R	6–3⅞x4⅛	320	37.8	144–3400	278–2200	6.30	.....	I	acdf
26	.....218DWX1-51	29	IC	218	395½	288	80⅛–69¾	16250	9.00/20	Her.DWXLD	4-D	R	6–4¼x5	426	43.3	142–2600	330–1700	15.0	.....	I	abcd
27	.....218DWX7-51	37	IC	218	395½	329½	80⅛–69¾	.....	9.00/20	Her.DWXLD	4-D	R	6–4¼x5	426	43.3	142–2600	330–1700	15.0	.....	I	abcd
28	GMC.....PDA3704	37	IC	239	420	386	80½–72½	16990	10.00/20	Own....4-71	2-D	R	4–4¼x5	284	28.9	147–2000	425–1350	17.1	500–1000	I	abcdfgh
29	.....PD4103	41	IC	247	420	387	79½–70½	18400	11.00/20	Own....6-71	2-D	TR	6–4¼x5	426	43.3	200–2000	600–1200	17.1	500–1000	I	abcdfgh
30	.....TGH2708	27	CS	151½	296⅝	258	81¼–75¼	9010	8.25/20	Own.....270	4-G	TR	6–3⅛x4	270	34.3	107–3200	207–1000	6.75	165–1000	I	abcdf
31	.....TGH3101	31	CS	180½	325⅝	287	81¼–75¼	9355	8.25/20	Own.....270	4-G	TR	6–3⅛x4	270	34.3	107–3200	207–1000	6.75	165–1000	I	abcdf
32	.....TDM3209	32	CS	182¼	341¼	308	80¼–72½	14085	9.00/20	Own....4-71	2-D	TR	4–4½x5	284	28.9	133–2000	400–1200	17.1	500–1000	I	abcdfgh
33	.....TDM3612	36	CS	210½	369½	337	80¼–72½	14605	9.00/20	Own....4-71	2-D	TR	4–4½x5	284	28.9	133–2000	400–1200	17.1	500–1000	I	abcdfgh
34	.....TDM4010	40	CS	238¾	396	366	79⅞–72½	16020	10.00/20	Own....6-71	2-D	TR	6–4½x5	426	43.3	170–2000	545–1000	17.1	500–1000	I	abcdfgh
35	.....TDM4509	45	CS	238¾	420	390	79⅞–70½	16520	10.00/20	Own....6-71	2-D	TR	6–4¼x5	426	43.3	170–2000	545–1000	17.1	500–1000	I	abcdfgh
36	.....TDH3209	32	CS	182¼	341¼	308	80¼–72½	13940	9.00/20	Own....4-71	2-D	TR	4–4½x5	284	28.9	133–2000	400–1200	17.1	500–1000	I	abcdfgh
37	.....TDH3612	36	CS	210½	369½	337	80¼–72½	14470	9.00/20	Own....4-71	2-D	TR	4–4½x5	284	28.9	133–2000	400–1200	17.1	500–1000	I	abcdfgh
38	.....TDH4010	40	CS	238¾	396	366	79⅞–72½	15855	10.00/20	Own....6-71	2-D	TR	6–4½x5	426	43.3	170–2000	545–1000	17.1	500–1000	I	abcdfgh
39	.....TDH4509	45	CS	238¾	420	390	79⅞–70½	16350	10.00/20	Own....6-71	2-D	TR	6–4½x5	426	43.3	170–2000	545–1000	17.1	500–1000	I	abcdfgh
40	.....TDH4511	45	CS	238¾	420	390	85⅞–76½	17020	11.00/20	Own....6-71	2-D	TR	6–4½x5	426	43.3	170–2000	545–1000	17.1	500–1000	I	abcdfgh
41	.....TDH5103	51	CS	281¾	477	441	87⅛–78½	18240	11.00/20	Own....6-71	2-D	TR	6–4¼x5	426	43.3	200–2000	600–1200	17.1	500–1000	I	abcdfgh
42	Kalamazoo.....	29	IC	194	316	.....	70–66	.....	8.25/20	Int.....K-7	4-G	Fr	6–3⅞x4½	269	30.4	101–3000	222–1600	6.30	.....	I	abcdf
43	.....	21–27	CIC	160	281	.....	70–66	.....	7.50/20	Int.....K-7	4-G	Fr	6–3⅞x4½	269	30.4	101–3000	222–1600	6.30	.....	I	abcdf
44	Mack.....C33	33	CS	180	344	313	79⅞–71¼	15830	10.00/20	Own EN510A	4-G	TR	6–4⅞x5½	510	47.2	158–2400	366–1000	6.07	135–1000	I	acdeh
45	.....C37	37	CS	213¾	377¾	346¾	79⅞–71½	16370	10.00/20	Own EN510A	4-G	TR	6–4⅞x5½	510	47.2	158–2400	366–1000	6.07	135–1000	I	acdeh
46	.....C41—Diesel	41	CS	237½	396	366¾	80⅞–71½	18815	11.00/22	Own END672	4-D	TR	6–4½x6	672	57.0	165–2000	445–1200	14.6	450–1000	I	acdeh
47	.....C45—Diesel	45	CS	261½	420	390¾	80⅞–71½	19225	11.00/22	Own END672	4-D	TR	6–4½x6	672	57.0	165–2000	445–1200	14.6	450–1000	I	acdeh
48	.....C37—Diesel	37	CS	213¾	380⅝	346¾	79¼–71½	16955	10.00/20	Own END672	4-D	TR	6–4½x6	672	57.0	145–2150	370–1200	14.6	450–1000	I	acdeh
49	.....C50	49	CS	272	479	443	82¾–71½	21765	11.00/22	Own END672	4-D	TR	6–4½x6	672	57.0	200–2000	584–1400	13.2	440–1000	I	acdeh or
50	Marmon-Herrington...8MB	27	CS	146	312	.....	80⅛–65⅛	9800	8.25/20	Ford.....254	4-G	TR	6–3½x4.4	254	29.4	104–3000	212–1200	6.85	.....	L	acd
51	.....8M2B	31	CS	182	348	.....	.....	10000	8.25/20	Ford.....254	4-G	TR	6–3½x4.4	254	29.4	104–3000	212–1200	6.85	.....	L	acd
52	Reo.....37-TB	37–40	CS	186	373⅛	333½	80–69⅞	14000	10.00/20	Wau 140GKB	4-G	UF	6–4½x5½	525	55.0	176–2600	425–1200	6.40	110–150	I	acdfgh
53	.....37-CB	37–40	CS	186	373⅛	333½	80–69¼	14000	10.00/20	Wau 140GKB	4-G	UF	6–4½x5½	525	55.0	176–2600	425–1200	6.40	110–150	I	acdfgh
54	Southern Coach.....F-31	32	CS	175	321½	305	80¼–71½	12800	9.00/20	Wau...6MZA	4-G	UF	6–4¼x4⅝	404	43.4	115–2200	305–1300	5.90	.....	L	abcdegh
55	.....F-35	36	CS	196	356½	340	80¼–71½	13500	10.00/20	Wau...6MZA	4-G	UF	6–4¼x4⅝	404	43.4	115–2200	305–1300	5.90	.....	L	abcdegh
56	.....S-36	36	CS	196	356½	340	80¼–71½	15000	10.00/20	Wau 140GKB	4-G	UF	6–4½x5½	525	48.6	170–2400	435–800	6.40	.....	L	abcdgh
57	.....S-41	41	CS	222½	391½	375	80¼–71½	15850	11.00/20	Wau 140GKG	4-G	UF	6–4½x5½	525	48.6	170–2400	435–800	6.40	.....	L	abcdg
58	Transit.....01	31	CS	179	354¼	301	81–73	12500	9.00/20	Cont...B6427	4-G	TR	6–4⅛x4⅞	427	44.7	127–2500	325–1200	6.43	.....	L	abcdg
59	Twin Coach.....34-S	34	CS	189	350½	300	80–73¼	13000	10.00/20**	Own.FTC180	4-G	UF	6–4¼x4⅝	404	43.4	180–2800	380–1600	7.50	165–120	I	abc
60	.....38-S	37	CS	189	373	322½	80–73¼	13550	10.00/20**	Own.FTC180	4-G	UF	6–4¼x4⅝	404	43.4	180–2800	380–1600	7.50	165–120	I	abc
61	.....41-S	41	CS	228	389½	345½	80⅛–73¼	14400	11.00/20**	Own.FTC180	4-G	UF	6–4¼x4⅝	404	43.4	180–2800	380–1600	7.50	165–120	I	abc
62	.....45S	45	CS	228	419½	367½	80⅛–73¼	15000	11.00/20**	Own.FTC180	4-G	UF	6–4¼x4⅝	404	43.4	180–2800	380–1600	7.50	165–120	I	abc
63	.....58D	58	CS	279	564	513½	80⅛–73¼	21600	10.00/20	Own&FTC180	4-G	UF	‡8–4¼x4⅝	404	43.4	180*2800	380*1600	7.50	165–120	I	acf
64	.....62S	60	CS	240	479½	429	80⅛–73¼	16500	11.00/20**	Own.FTC200	4-G	UF	6–4½x5	451	48.0	200–2800	442–1600	7.50	165–120	I	abcd
65	White.....1138 & 1136-S	36–37	CSS	191	360⅛	.....	82⅛–71¼	16135	10.00/20	Own..280TA	4-G	UF	6–4½x5	504	51.3	175–2800	410–1400	6.50	.....	L	abcdh
66	.....1140 & 1140-S	40–41	CSS	214	395⅛	.....	82⅛–71¼	16855	11.00/20	Own..280TA	4-G	UF	6–4½x5	504	51.3	175–2800	410–1400	6.50	.....	L	abcdh
67	.....1144 & 1144-S	‡44	CSS	238	419⅛	.....	82⅛–71¼	17300	11.00/20	Own.....24A	4-G	UF	12–4½x4¼	681	81.7	210–2800	500–1400	6.10	.....	L	abcdh
68	.....1150D	50	CS	268	468	.....	86⅛–77¼	19500	12.00/20	Cum..NHHB	4-D	UF	6–5½x6	743	63.0	200–2100	540–1300	15.5	.....	I	abcd

ABBREVIATIONS

••—Torque converter.
•—Hundred rpm.
■—Each engine.
‡—Two used.
‡—City, 44; suburban, 42 or 45.
******—9.00/20 rear.
†—Front, 14⅜; rear, 15.
¶—Front, 15; rear, 16½.
*****—Front to center wheels, 189; center to rear wheels, 195.

a—Main bearings.
b—Wrist pins.
c—Connecting rods.
d—Camshaft.
e—Accessory drive.
f—Valve lifters or rocker arms and shafts.
g—Timing gears or chain.
h—Air compressor.
A—Air.
AL—Electric Autolite Co.
BB—Borg & Beck.
Ben—Bendix Products.
BL—Brown-Lipe Div.
Bos—American Bosch Corp.
Bui—Buick Motor Div.
Car—Carter Carburetor Corp.
Ce—Centrifugal.
CIC—City and intercity service.
Cla—Clark Equipment Co.
Cont—Continental Motors Corp.
CS—City service.
CSS—City and suburban service.
Cum—Cummins Engine Co.
D—Diesel fuel.
DD—Dual downdraft.
Do—Downdraft.
DR—Delco-Remy Div.
Ds—Drive shaft.
Fe—Ford Motor Co.
Fr—Front.
Fu—Fuller Mfg. Co.
G—Gasoline.
Gem—Gemmer Mfg. Co.

City and Intercity Types

FUEL SYSTEM			ELECTRICAL SYSTEM			Gov-ernor			TRANSMISSION				Uni-versals		REAR AXLE		BRAKES				SPRINGS				RUNNING GEAR			
Carburetor or Injector Pump					Battery												Service			Hand	Front		Rear					
Make and Type	Size (In.)	Tank Capacity (Gal.)	Ignition System—Make	Generator and Starter—Make	Voltage and Amp. Hours Capacity	Type	Max. Governed Speed—M.P.H.	Clutch—Make and Size (In. diam.)	Make	No. of Forward Speeds	Low Speed Ratio—to 1	Type	Number	Size of Series	Make and Model	Standard Gear Ratio—to 1	Type of Applicator	Total Lining Area (Sq. In.)	Drum Diam. (In.)	Operates on—	Total Lining Area (Sq. In.)	No. of Leaves	Length and Width (In.)	No. of Leaves	Length and Width (In.)	Front Axle—Make	Steering Gear—Make	Outside Diameter of Min. Turn. Circle (Ft.)	Line Number
Zen..Up	2	130	DR	DR	12-160♣	Ce	68	Lg.....17	Spi	4	4.36	M	2	1700	Tim...R-112-W	4.11	A	899	16½	Ds	127	12	64-4	13	70-5	Tim	Ro	84	1
Hol..Do	1♣	65	DR	LD	12-160	Va	48	Lg.....14	Cla	3	4.06	M	2	1500	Tim....56434W	6.17	A	533	14½	Ds	85	11	60-3	12	64-3	Cla	Ro	64	2
Hol..Do	1½♣	65	DR	LD	12-160	Va	50	Lg.....14	Cla	3	4.06	M	2	1500	Tim....56434W	6.17	A	533	14½	Ds	85	12	60-3	12	64-3	Cla	Ro	72	3
Zen..Up	2	95	DR	LD	12-160	...	52	.....	Spi••	If	.....	H	2	1600	Tim.....L-100	6.17	A	690	16½	Ds	101	12	62-4	13	68-4	Tim	Ro	76	4
Zen..Up	2	107	DR	LD	12-160	...	54	.....	Spi••	If	.....	H	2	1700	Tim....59070W	5.14	A	830	16½	Ds	127	6	66-4	6	76-4	Tim	Ro	85	5
Zen..Up	2	107	DR	LD	12-160	Ce	68	Lg.....17	Spi	4	4.36	M	2	1700	Tim....59070W	4.11	A	830	16½	Ds	127	6	66-4	6	76-4	Tim	Ro	85	6
Zen..Up	2	120	DR	DR	12-160	...	68	.....	Spi••	If	.....	H	2	1700	TimR-110-DPA	5.57	A	848	15	Ds	127	12	62-4	14	68-5	Tim	Ro	71	7
Zen..Do	1⅝	100	DR	DR	12-165	Su	65	Lg.....15	Cla	4	4.44	M	2	1600	Tim.....58434	4.11	A	760	16½	Ds	115	10	51-4	11	64½-4	Tim	Ro	64	8
Car...Up	...	65	AL	AL	12-158	Su	58	TD.....12	Dge	4	.....	M	2	1400	Tim.....54440	5.71	M	....	14½	Ds	.....	14	60-3	16	60-3	Tim	Ro	55	9
Hol..Do	...	80	DR	DR	12-158	Ce	55	Roc....14	Spi	3	3.80	M	2	1500	Tim.....L110	5.28	A	614	15	Ds	45	10	60-3	16	60-3	Tim	Ro	65	10
Cum.....	...	82	DR	LD	12-110	M	55	Lg.....14	Fu	5	6.96	M	2	1500	Tim.....L-110	5.28	A	....	16½	Ds	.....	...	54-3	...	58-3	Tim	Ro	80	11
Hol..DD	...	100	DR	DR	12-	Su	54	Roc....14	Fu	5	6.52	M	2	1500	Tim..56410-PA	5.28	A	598	17¼	Ds	88	14	52-3	16	58-3	Tim	Ro	....	12
Hol..Do	2	92	DR	LD	12-120	Su	74	LR.....15	Fu	5	8.08	M	2	1500	Tim.....L110	4.11	A	696	¶	Ds	16	16	54-3	17	64-3	Tim	Ro	80	13
Cum.....	...	90	....	LN	12-110	...	68	LR.....17	Fu	5	6.37	M	2	1600	TimQ-110-DPA	4.62	A	....	15	Ds	.....	...	54-4	...	70-4	Tim	Ro	80	14
Hol...Up	...	30	Fo	Fo	6-135	Op	68	Lg.....11	W	3	3.71	M	3	....	Tim....F5COE	5.14	H	302	15	Ds	40	13	38-2¼♣	12	45-2½	Tim	Gem	64.6	15
Hol...Up	...	30	Fo	Fo	6-135	Op	57	L-F.....11	W	3	3.71	M	3	....	Tim.....F5	5.14	H	302	15	Ds	61½	13	36-2	...	52-2½	Tim	Ro	64.6	16
Hol...Up	...	30	Fo	Fo	6-135	Op	68	Lg.....11	W	3	3.71	M	3	....	Tim....F5COE	5.14	H	302	15	Ds	40	13	38-2¼	12	45-2½	Tim	Gem	64.6	17
Hol...Up	...	30	Fo	Fo	6-135	Op	57	Lg.....11	W	3	3.71	M	3	....	Tim.....F5	5.14	H	302	15	Ds	61½	13	36-2	12	52-2½	Tim	Ro	64.6	18
Zen..Up	1¾	60	DR	DR	12-160	Ce	55	LR.....13	Cla	3	3.90	M	4	1400	Tim.....	5.57	A	594	18½	Ds	88	12	54-3	12	60-3	Tim	Ro	59	19
Zen..Up	1¾	73	DR	DR	12-160	Ce	65	LR.....13	Cla	4	5.00	M	3	1400	Tim.....	7.85	A	796	14½	Ds	88	11	50-3	13	63½-3	Tim	Ro	66½	20
Str...Do	...	80	DR	DR	12-155	Ce	63	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	6.17	A	578	15	Ds	45	12	52-3	15	56-3	Tim	Ro	72	21
Str...Do	...	80	DR	DR	12-155	Ce	63	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	6.17	A	578	15	Ds	45	12	52-3	15	56-3	Tim	Ro	72	22
Str...Do	...	80	DR	DR	12-155	Ce	63	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	6.17	A	578	15	Ds	45	12	52-3	15	56-3	Tim	Ro	72	23
Str...Do	...	80	DR	DR	12-155	Ce	63	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	6.17	A	578	15	Ds	45	12	52-3	12	58-3	Tim	Ro	72	24
Str...Do	...	80	DR	DR	12-155	Ce	63	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	6.17	A	578	15	Ds	45	12	52-3	15	58-3	Tim	Ro	....	25
Bos.....	...	80	....	DR	12-155	Ce	60	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	4.62	A	578	15	Ds	45	12	52-3	15	56-3	Tim	Ro	72	26
Bos.....	...	80	....	DR	12-155	Ce	60	Spi.....13	Spi	5	6.93	M	2	1500	Tim.....H110	4.62	A	578	15	Ds	45	12	52-3	15	58-3	Tim	Ro	72	27
Own.....	...	100	....	DR	12-155♣	Ce	57	Lg...15½	Cla	4	4.88	M	2	1600	Tim.58352WX4	4.11	A	646	14½	Ds	136	11	53-4	12	67-4	Tim	Ro	96	28
Own.....	...	100	....	DR	12-155♣	Ce	67	Lg.....17	Spi	4	3.86	M	2	1700	Tim.59039WX2	3.55	A	705	14½	Ds	125½	11	58-4	14	72-4	Tim	Ro	84	29
Zen..Do	1½	60	DR	DR	12-155	Ce	52	.....	GH	4	3.82	H	2	1400	Cla.....R-1203	6.33	A	496	14½	Ds	28	10	52-3	11	59-3	Cla	Sag	60	30
Zen..Do	1½	60	DR	DR	12-155	Ce	52	.....	GH	4	3.82	H	2	1400	Cla.....R-1203	6.33	A	620	14½	Ds	28	11	52-3	11	59-3	Cla	Sag	68	31
Own.....	...	85	....	DR	12-117♣	Ce	59	Lg.....17	Spi	4	4.36	M	2	1600	Tim.57452WX4	3.87	A	646	14½	Ds	69	9	60½-4	12	62-4	Tim	Sag	66½	32
Own.....	...	85	....	DR	12-126♣	Ce	59	Lg.....17	Spi	4	4.36	M	2	1600	Tim.57452WX4	3.87	A	646	14½	Ds	69	9	60½-4	12	62-4	Tim	Sag	73	33
Own.....	...	85	....	DR	12-117♣	Ce	61	Lg.....17	Spi	4	4.36	M	2	1700	Tim.58460WX3	3.87	A	764	14½	Ds	104	10	60½-4	13	62-4	Tim	Sag	80	34
Own.....	...	85	....	DR	12-117♣	Ce	61	Lg.....17	Spi	4	4.36	M	2	1700	Tim.58464WX1	3.87	A	764	14½	Ds	104	10	60½-4	14	64½-4	Tim	Sag	80	35
Own.....	...	85	....	DR	12-117♣	Ce	47	Own...15	GM••	If	.....	H	2	1600	Tim.57460WX1	4.71	A	646	14½	Ds	69	9	60½-4	12	62-4	Tim	Sag	66½	36
Own.....	...	85	....	DR	12-117♣	Ce	47	Own...15	GM••	If	.....	H	2	1600	Tim.57460WX1	4.71	A	646	14½	Ds	69	9	60½-4	12	62-4	Tim	Sag	73	37
Own.....	...	85	....	DR	12-117♣	Ce	48	Own...15	GM••	If	.....	H	2	1700	Tim.58470WX1	4.71	A	764	14½	Ds	104	10	60½-4	13	62-4	Tim	Sag	80	38
Own.....	...	85	....	DR	12-117♣	Ce	48	Own...15	GM••	If	.....	H	2	1700	Tim.58473WX1	4.71	A	764	14½	Ds	104	10	60½-4	14	64½-4	Tim	Sag	80	39
Own.....	...	85	....	DR	12-117♣	Ce	49	Own...15	GM••	If	.....	H	2	1700	.....	4.71	A	764	14½	Ds	104	12	60½-4	15	64½-4	Tim	Sag	72	40
Own.....	...	85	....	DR	12-117♣	Ce	45	Own...15	GM••	If	.....	H	2	1700	Tim.....59146	5.16	A	874	14½	Ds	104	13	60½-4	14	64½-5	Tim	Sag	77	41
Hol..Do	...	31	AL	AL	6-205	...	58	Int...10⅞♣	Int	5	6.52	M	3	....	Int.....R1560	5.62	H	421	.....	Ds	75	...	46-2¼	...	54-3	Int	Ro	59	42
Hol..Do	...	31	AL	AL	6-205	...	57	Int...10⅞	.....	5	6.52	M	3	....	Int.....R1560	5.62	H	421	†	Ds	75	9	46-2¼	11	54-3	.....	Ro	59	43
Zen..Up	1¾	75	DR	DR	12-158	Ce	24•	Spi....14	Spi••	If	.....	H	2	1600	Own...RA1061	Var	A	740	15	Ds	61	11	62-3½	15	62-4	Own	Gem	55	44
Zen..Up	1¾	75	DR	DR	12-158	Ce	24•	Spi....14	Spi••	If	.....	H	2	1600	Own...RA1061	Var	A	740	15	Ds	61	11	62-3½	15	62-4	Own	Gem	64	45
Bos.....	B	100	....	DR	12-200	H	20•	Spi....16	Spi••	If	.....	H	2	1700	Own...RA1031	Var	A	884	16½	Ds	122	11	70-4	15	62-4	Own	Gem	75	46
Bos.....	B	100	....	DR	12-200	H	20•	Spi....16	Spi••	If	.....	H	2	1700	Own...RA1031	Var	A	884	16½	Ds	122	11	70-4	15	62-4	Own	Gem	80	47
Bos.....	B	75	....	DR	12-200	H	21•	Spi....14	Spi••	If	.....	H	2	1600	Own...RA1061	Var	A	740	15	Ds	61	11	62-3½	15	62-4	Own	Gem	64	48
Bos.....	...	85	....	DR	12-200	H	41	Spi....16	Spi••	If	.....	H	2	1700	Own...RA5502	4.88	A	1088	16½	Ds	139	12	62-4	15	62-4	Own	Ben	66	49
Hol..Do	1¼	60	Fo	Fo	12-158	Su	45	12	Spi	3	3.54	M	..	....	Tim.....	6.67	A	448	14½	Ds	83	...	54-3	...	58-3	Tim	.....	.....	50
Hol..Do	1¼	60	Fo	Fo	12-158	Su	45	12	Spi	3	3.54	M	..	....	Tim.....	6.67	A	448	14½	Ds	83	...	54-3	...	58-3	Tim	.....	.....	51
Zen..DD	1¾	80	DR	DR	12-160	Su	57	BB....14	Spi	3	3.80	M	2	1600	Tim.....L110	6.16	A	796	16½	Ds	102	9	62-4	9	64-4	Tim	Ro	64	52
Zen..DD	1¾	80	DR	DR	12-160	...	57	Spi....14	Spi••	If	.....	H	2	1600	Tim.....L110	6.16	A	796	16½	Ds	102	9	62-4	9	64-4	Tim	Ro	64	53
Zen..Do	1¾	72	Op	Op	12-Op	Ce	50	BL....14	Spi	3	3.80	M	2	1600	Tim..H110DPA	5.28	A	576	15	Ds	96	8	62-3½	10	70-4	Tim	Ro	64	54
Zen..Do	1¾	92	Op	Op	12-Op	Ce	50	BL....14	Spi	3	3.80	M	2	1600	Tim..L100DPA	6.16	A	631	15	Ds	96	10	62-3½	12	70-4	Tim	Ro	68	55
Zen..Do	1¾	92	Op	Op	12-Op	Ce	50	BL....13	Spi	4	4.67	M	2	1600	Tim..L110DPA	6.16	A	651	15	Ds	96	11	62-3½	12	70-4	Tim	Ro	68	56
Zen..Do	1¾	110	Op	Op	12-Op	Ce	50	.....	Spi••	If	.....	H	2	1600	TimQ-110-DPA	6.17	A	651	15	Ds	101	12	62-3½	14	70-4	Tim	Ro	74	57
Str...De	1¼	91.5	DR	DR	12-160	Su	51	Lg.....	Cla	3	4.06	M	2	1600	Cla.....R1253	5.57	A	500	14½	Ds	65½	9	56-3	10	58-3	Cla	Ro	60	58
Hol..Do	...	80	DR	LD	12-170	Va	48	None	Spi••	If	5.40	H	2	1608	Tim.....J151	5.83	A	762	14½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	70½	59
Hol..Do	...	80	DR	LD	12-170	Va	48	None	Spi••	If	5.40	H	2	1608	Tim.....J151	5.83	A	762	14½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	70½	60
Hol..Do	...	80	DR	LD	12-170	Va	48	None	Spi••	If	5.40	H	2	1608	Tim.....58268	6.16	A	762	16½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	77½	61
Hol..Do	...	125	DR	LD	12-170	Va	48	None	Spi••	If	5.40	H	2	1608	Tim...58268C3	6.16	A	762	14½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	79½	62
Hol..Do	...	125	DR	LD	12-170	Va	58	None	Spi••	If	5.40	H	4	1608	Tim.....J152	4.86	A	762	16½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	62.5	63
Hol..De	...	125	DR	DR	12-170	Va	41	.....	Spi••	...	5.40	H	2	1608	Tim.....58269	6.83	A	845	16½	Ds	65½	Torsilastic		Torsilastic		Tim	Gem	87.6	64
Zen..Ho	1½	105	DR	LD	12-158	HM	57	None	Own	2	1.98	H	2	1700	Own.....88C	5.57	A	818	15	Ds	123	11	66-4	12	72-4	Own	Ro	38½	65
Zen..Ho	1½	130	DR	LD	12-158	HM	58	None	Own	2	1.98	H	2	1700	Own.....88C	5.57	A	818	15	Ds	123	11	66-4	12	72-4	Own	Ro	39½	66
Zen..Ho	1½	130	DR	LD	12-158	HM	58	None	Own	2	1.98	H	2	1700	Own.....88C	5.57	A	818	15	Ds	123	11	66-4	12	72-4	Own	Ro	41.6	67
Cum.....	...	85	....	DR	12-158♣	Ce	51	.....	Spi••	2	6.00	H	2	....	Own.....88C	4.88	A	818	15	Ds	126	11	66-4	12	72-4	Own	Ro	41½	68

GH—G. M. Hydra-Matic.
GM—General Motors Corp.
H—Hydraulic
Her—Hercules Motor Corp.
Ho—Horizontal.
Hol—Holley Carburetor Co.
HS—Hall-Scott Motor Div.
HM—Hydraulic mechanical.
I—Valve in-head.
I-C—International-Continental.
IC—Intercity service.
IF—Infinite
Int—International Harvester Co.
L—Valves in-side.
LD—Leece-Neville (Alternator). Delco-Remy (Starter).
L-F—Long or Ford.
Lg—Long Mfg. Div.
LN—Leece-Neville Co.
LR—Lipe Rollway Corp.
M—Mechanical.
Op—Optional.
R—Rear.
Ro—Ross Gear & Tool Co.
Roc—Rockford Drilling Machine Div.
Sag—Saginaw Steering Gear Div.
Spi—Spicer Mfg. Div.
Str—Stromberg Carburetor Div.
Su—Suction.
Sub—Suburban service.
TD—Twin disc.
TR—Transverse in rear.
Tim—Timken Detroit Axle Co.
UF—Underfloor.
Up—Updraft.
Va—Vacuum.
Var—Various.
W—Warner Gear.
Wau—Waukesha Motor Co.
Zen—Zenith Carburetor Div.

Condensed Truck Specifications Table

(Showing certain makes not included in regular table which begins on opposite page)

MAKE AND MODEL	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: No. of Cylinders Bore and Stroke	ENGINE DETAILS: Displacement	ENGINE DETAILS: Torque lb. ft.	ENGINE DETAILS: Maximum Brake H.P. at R.P.M. Given	No. of Forward Speeds	REAR AXLE: Gear and Type	REAR AXLE: Drive and Torque	REAR AXLE: Gear Ratio Range in High
Autocar C50D	148	164	26000	▲9600	10.00/20	11.00/20	6-4x5	377	292	119–	5	2F	H	6.40-10.0
(T) C50T	148	164	26000	▲9250	10.00/20	10.00/22	6-4x5	377	288	119–	5	2F	H	6.40-9.10
U50	106	142	26000	▲8950	9.00/20	10.00/22	6-4x5	377	292	119–	5	2F	H	6.40-9.10
U50T	96	106	26000	▲8550	9.00/20	10.00/22	6-4x5	377	292	119–	5	2F	H	6.40-9.10
C70	164	200	30000	▲10200	10.00/20	11.00/22	6-4½x5¼	447	353	145–	5	2F	H	6.40-9.10
C70D	148	164	28000	▲10500	11.00/20	11.00/22	6-4½x5¼	447	352	145–	5	2F	H	6.13-9.30
C70S	164	200	32000	▲10300	10.00/20	11.00/22	6-4½x5¼	501	402	165–	5	2F	H	6.13-9.30
(T) C70T	148	164	30000	▲10000	10.00/20	11.00/22	6-4½x5¼	447	353	145-2700	5	2F	H	5.64-9.10
(T) C70TS	148	164	32000	▲10550	10.00/20	11.00/22	6-4½x5¼	501	400	165-2700	5	2F	H	5.64-9.30
U70	128	163	30000	▲10300	10.00/20	11.00/22	6-4½x5¼	447	352	145–	5	2F	H	6.40-9.10
U70S	128	163	32000	▲10850	10.00/20	11.00/22	6-4½x5¼	501	402	165–	5	2F	H	6.13-9.30
(T) U70T	109	109	30000	▲10525	10.00/20	11.00/22	6-4½x5¼	447	352	145–	5	2F	H	6.40-9.10
(T) U70TS	112	112	32000	▲10880	11.00/20	11.00/22	6-4½x5¼	501	402	165–	5	2F	H	6.13-9.30
(T) C75T	140	162	35000	▲11800	10.00/20	11.00/22	6-4⅝x5⅝	572	432	189-2800	5	2F	H	6.13-9.30
(T) (D) DC75T	142	157	36000	▲12400	10.00/20D	11.00/22	6-4⅞x6	672	495	150-1800	5	2F	H	6.13-9.30
C90	182	200	36000	▲11900	11.00/20	12.00/24	6-4½x5¼	501	402	165–	5	2F	H	6.01-10.4
C90D	171	171	44000	▲13500	11.00/24	14.00/24†	6-4½x5¼	501	402	165–	4	2F	H	7.69-11.4
(T) C90T	148	164	36000	▲11400	11.00/20	12.00/24	6-4½x5¼	501	400	165-2700	5	2F	H	5.34-10.4
U90	128	163	36000	▲11450	11.00/20	12.00/24	6-4½x5¼	501	402	165–	5	2F	H	6.01-10.4
(T) U90T	109	109	36000	▲11300	11.00/20	12.00/24	6-4½x5¼	501	402	165–	5	2F	H	6.01-10.4
(T) C95T	140	140	40000	▲12000	11.00/20	12.00/24	6-4⅞x5⅝	602	464	200-2600	5	2F	H	6.01-10.4
(D) DC100	219	219	36000	▲14300	10.00/20	12.00/24	6-4⅞x6	672	495	150-1800	4	2F	H	6.01-10.4
(T) (D) DC100T	144	159	36000	▲13650	10.00/20	12.00/24	6-5½x6	743	537	165-1800	5	2F	H	5.34-10.4
(D) DC100D	164	164	54000	▲16500	12.00/24	14.00/24†	6-4⅞x6	672	495	150-1800	4	2F	H	7.69-11.4
C100T	163	178	36000	▲13900	10.00/20	11.00/24	6-5¾x6	935	800	268-2000	4	2F	H	6.01-10.4
(D) DCB100T	165	180	36000	▲14000	10.00/20	11.00/24	6-5¼x6½	844	600	180-1800	4	2F	H	6.01-10.4
C8044	164	....	30000	▲13900	11.00/20	12.00/20	6-4½x5⅛	501	402	165–	4	2F	H	** -8.55
(D) DC10044N	157	....	38000	▲16200	11.00/24	12.00/24	6-5½x6	743	537	200-2100	4	2F	H	** -7.37
C5084	148	....	38000	▲12300	9.00/20	10.00/20	6-4x5	377	292	119–	5	SF	L	6.83-7.80‡
C7084	148	....	38000	▲13000	10.00/20	.....	6-4¼x5¼	447	353	145–	5	SF	L	6.83-7.80‡
C7064S	148	....	40000	▲13800	10.00/20	.....	6-4½x5¼	501	402	165–	5	2F	....	6.84-10.2
C9064	142	....	54000	▲15000	11.00/20	11.00/24	6-4½x5¼	501	402	165–	5	2F	....	7.33-10.3
(D) DC10064	210	....	40000	▲17800	10.00/20	11.00/20	6-4⅞x6	672	495	150-1800	4	W	....	7.71-6.16
(D) DC10064S	144	267	62000	▲20150	11.00/24	12.00/24	6-5½x6	743	537	165-1800	5	.....	....	8.07-11.5
(D) DC20064S	142	....	80000	▲23000	11.00/24	††	6-5½x6	743	537	200-2100	5	2	....	8.07-11.5
Diamond T 322	130	....	14500	4800	6.00/20	8.25/20	6-3⅞x4¼	236	190	91-3200	4	SF	H	5.57-6.83
420	130	....	16300	5800	6.00/20	8.25/20	6-3⅞x4¼	283	201	94-3000	4	SF	H	5.57-6.33
520	130	....	18200	6200	7.00/20	9.00/20	6-3⅞x4¼	282	206	101-3000	4	SF	H	5.57-6.83
620	130	....	21200	7000	7.50/20	10.00/20	6-4x4¼	320	240	113-3000	5	SF	H	Dual Rge.
404SC	106	....	16200	5000	6.00/20	8.25/20	6-3½x4¼	245	184	89-3000	4	SF	H	5.57-6.83
509SC	106	....	16200	6500	7.00/20	9.00/20	6-3⅞x4¼	282	206	101-3000	4	SF	H	5.57-6.83
614SC	118	....	21200	6500	7.50/20	10.00/20	6-4x4½	339	272	130-3000	5	SF	H	6.50-7.16
660	133	....	23000	8100	9.00/20	10.00/20	6-4⅞x4⅞	427	348	162-2700	5	SF	H	Dual Rge.
720	133	....	25000	8800	9.00/20	11.00/22	6-4⅞x4⅞	427	348	162-2700	5	SF	R	Dual Rge.
722	133	....	25000	9000	9.00/20	11.00/22	6-4⅝x5¼	474	364	162-2600	5	SF	R	5.28-6.83
920	145	....	33000	11000	9.00/20	11.00/24	6-4⅝x5⅝	572	440	190-2800	5	2F	R	5.28-6.83
(D) 921	145	....	28000	10800	9.00/20	10.00/20	6-4⅞x6	672	500	59-1800	5	2F	R	Dual Rge.
(D) 921R	157	....	36000	11200	9.00/20	11.00/24	6-5½x6	743	502	175-2000	10	2F	R	5.28-6.83

MAKE AND MODEL	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: No. of Cylinders Bore and Stroke	ENGINE DETAILS: Displacement	ENGINE DETAILS: Torque lb. ft.	ENGINE DETAILS: Maximum Brake H.P. at R.P.M. Given	No. of Forward Speeds	REAR AXLE: Gear and Type	REAR AXLE: Drive and Torque	REAR AXLE: Gear Ratio Range in High
G.M.C. 100-22	116	125	4800	2615	6.00/16S	6.50/16	6-3⅞x3½	228	178	96-3200	3	H½	T	** -4.11
Sub. 100-22	116	....	4800	3875	6.00/16S	6.50/16	6-3⅞x3½	228	178	96-3200	3	H½	T	** -4.11
150-22	125	....	5800	2870	15"S	7.50/17	6-3⅞x3½	228	178	96-3200	3	HyF	T	** -4.11
P150-22	125	....	7000	2550	15"S	7.50/17	6-3⅞x3½	228	178	96-3200	3	HyF	T	** -5.14
250-22	125	137	8800	3130	7.00/17S	7.00/18	6-3⅞x3½	228	178	96-3200	3	HyF	H	** -5.14
280-22	137	161	11000	3725	7.00/20	7.50/20	6-3⅞x3½	228	178	96-3200	3	HyF	H	** -5.43
(T) 300-24	137	179	14000	3965	6.50/20	7.50/20	6-3⅞x3½	248	195	110-3600	4	HyF	H	** -5.43
(T) 350-24	137	197	16000	4220	7.50/20	8.25/20	6-3⅞x3½	248	195	110-3600	4	HyF	H	** -6.17
(T) F350-24	110	179	16000	4755	7.50/20	8.25/20	6-3⅞x3½	248	195	110-3600	4	HyF	H	** -6.17
S300-24	197	....	14500	4565	7.50/20	8.25/20	6-3⅞x3½	248	195	110-3600	4	HyF	H	** -6.17
White WC16	136	226	18000	4980	6.50/20	9.00/20	6-3¾x4½	298	230	110-3100	4	HF♦	H	5.29-7.20
WC18	136	226	20000	5900	7.00/20	9.00/20	6-3⅞x4½	318	250	114-3000	5	BF♦	H	5.11-7.17
WC20	136	226	23000	6455	7.50/20	10.00/20	6-4x4½	340	270	120-3000	5	BF■	H	5.11-7.17
WC22	136	226	26500	7005	8.25/20	11.00/20	6-3⅞x5⅛	362	285	125-3000	5	BF♦	R	4.88-7.17
WC26	136	226	30000	7405	9.00/20	11.00/22	6-4x5½	386	315	135-3000	5	BF♦	R	4.88-7.17
WC28	134	224	32000	9080	9.00/20	11.00/24	6-4⅝x5	481	350	170-3000	5	BF♦	R	4.88-7.17
WC32	146	224	37500	10160	9.00/20	11.00/24	6-4⅝x5	504	405	184-3000	5	.....	R	6.67-9.50
(c.o.e.) 3014	99	165	16000	▲4880	6.50/20	8.25/20	6-3½x4¼	245	185	100–....	4	HyF	H	6.20-6.80
(c.o.e.) 3015	99	147	19000	.....	7.00/20	9.00/20	6-3½x4¼	245	185	100–....	4	....	H	5.29-7.20
(c.o.e.) 3016	85	181	18500	▲6325	6.50/20	9.00/20	6-3¾x4½	298	230	110-3100	4	HyF	H	5.29-7.20
(c.o.e.) 3018	85	181	21000	▲6725	7.00/20	9.00/20	6-3⅞x4½	318	250	114-3000	5	HyF	H	5.11-7.17
(c.o.e.) 3020	85	181	24000	▲7190	7.50/20	10.00/20	6-4x4½	340	270	120-3000	5	HF♦	H	4.88-7.17
(c.o.e.) 3022	91	181	28000	▲8175	8.25/20	11.00/22	6-3⅞x5⅛	362	285	125-3000	5	BF♦	R	4.88-7.17
(c.o.e.) 3026	91	181	32000	▲8585	9.00/20	12.00/20	6-4x5½	386	315	135-3000	5	BF♦	R	4.88-7.17
(T) WC22T	136	160	•50000	7065	8.25/20	11.00/20	6-4x5½	386	315	135-3000	5	BF♦	R	4.88-7.17
(T) WC26T	136	160	•55000	7465	9.00/20	11.00/22	6-4x5½	386	315	135-3000	5	BF♦	R	4.88-7.17
(T) WC28T	134	158	•65000	9175	9.00/20	11.00/24	6-4⅝x5	504	405	184-3000	5	BF♦	R	4.88-7.17
(T) WC16PLT	136	160	•40000	6020	7.00/20	10.00/20	6-4x4½	340	270	120-3000	5	HF♦	H	4.11-7.40
(T) WC16T	136	160	•30000	5125	6.50/20	9.00/20	6-3⅞x4½	318	250	114-3000	5	HF♦	H	5.29-7.20
(T) WC18T	136	160	•35000	5965	7.00/20	9.00/20	6-4x4½	340	270	120-3000	5	BF♦	H	5.11-7.17
(T) WC20T	136	160	•45000	6520	7.50/20	10.00/20	6-3⅞x5⅛	362	285	125-3000	5	BF♦	H	5.11-7.17
(T) WC22PLT	136	160	•50000	6725	8.25/20	11.00/20	6-4x5½	386	315	135-3000	5	BF♦	H	4.75-7.14
(T) (c.o.e.) 3016T	85	109	•33000	6375	6.50/20	9.00/20	6-3⅞x4½	318	250	114-3000	5	HyF	H	5.29-7.20
(T) (c.o.e.) 3018T	85	109	•38000	6775	7.00/20	9.00/20	6-4x4½	340	270	120-3000	5	HyF	H	5.11-7.17
(T) (c.o.e.) 3020T	85	109	•48500	7240	7.50/20	10.00/20	6-4x4½	340	270	120-3000	5	HF♦	H	5.11-7.17
(T) (c.o.e.) 3022PLT	91	109	•54000	7750	8.25/20	11.00/22	6-4x5½	386	315	135-3000	5	BF♦	H	4.75-7.14
(T) (c.o.e.) 3022T	91	109	•54000	8215	8.25/20	11.00/22	6-4x5½	386	315	135-3000	5	BF♦	R	4.88-7.17
(D) WC26D	134	224	27000	.....	9.00/20	11.00/24	6-5⅛x6	743	540	175-1800	10	.....	R	** -5.57
(D) WC28D	134	224	29000	.....	9.00/20	11.00/24	6-5⅛x6	743	535	200-1800	10	.....	R	** -5.57
(D) WC32D	134	224	34000	.....	9.00/20	11.00/24	6-5⅛x6	743	535	200-1800	10	.....	R	** -6.67
(T) (D) WC26TD	134	158	•55000	11365	9.00/20	11.00/24	6-5⅛x6	743	540	175-1800	10	.....	R	** -5.57
(T) (D) WC28TD	134	158	•65000	11365	9.00/20	11.00/24	6-5⅛x6	743	535	200-1800	10	.....	R	** -5.57
WC2264	160	214	44000	10700	9.00/20	10.00/20	6-4x5½	386	315	135-3000	5	F♦	L	8.33-9.52
WC2864	176	212	55000	13145	9.00/20	11.00/22	6-4⅝x5	504	405	184-3000	5	WF	L	7.75-8.50
WC3284	176	245	61000	15395	11.00/20	12.00/24	6-4⅝x5	504	405	184-3000	5	2F	L	10.16-11.5
(D) WC2864TD	158	176	72000	14530	9.00/20	11.00/22	6-5⅛x6	743	535	200-1800	10	.....	.....	4.71-6.16

ABBREVIATIONS. (For standard abbreviations, see opposite page).

▲—Includes weight of cab.
†—Rear tires only.
‡—Equipped with two speed torque divider having ratios of 1.22 and 1.68.
•—Gross combination weight.
††—12.00/24 front; 14.00/24 rear.
♦—Torque Divider.
♦—2-speed optional.
■—Other types optional.

Truck Specifications Table

OF CURRENT PRODUCTION MODELS

DATA SUPPLIED BY MANUFACTURERS AND TABULATED BY

COMMERCIAL CAR JOURNAL

Key to Definitions, References and Abbreviations

DEFINITIONS

MAKE AND MODEL

Only Domestic Truck Models are listed.

OPTIONAL UNITS

For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE

The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED GROSS VEHICLE WEIGHT FOR NORMAL SERVICE

The Gross Weights published herewith are those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT

The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE

The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE

The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE

The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE

The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.

Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE

Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS

Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO REFERENCES

c.f.—Cab Forward design.
c.o.e.—Cab-Over-Engine design.
(D)—Diesel-engine equipped.
(T)—Designed for tractor use only.
(C)—Converted Ford or Chevrolet Model.

KEY TO ABBREVIATIONS

MAKES—ALL

B—Bendix
BL—Brown-Lipe.
Bu or Bud—Buda.
BW—Bendix-Westinghouse
C—Chevrolet.
Cl or Cla—Clark.
Con—Continental.
Cum—Cummins-Diesel.
Eat—Eaton.
F—Ford.
Fu—Fuller.
G-H—Goodyear-Hawley type.
H—Hotchkiss.
Her—Hercules.
HS—Hall-Scott.
L—Lockheed.
LH—Lockheed front, Wagner "hi-Tork" rear.
LT—Lockheed type front, Timken rear.
LW—Lockheed front, Wisconsin rear.
M—Midland.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Shu—Shuler.
Spi—Spicer
T or Tim—Timken-Detroit Axle Co.
Tw—Timken-Detroit—Westinghouse.
TW—Timken-Detroit—Wisconsin.
WG—Warner Gear.
Wau—Waukesha.
W or Wis—Wisconsin.
Wg—Wagner "hi-Tork"
Ws—Westinghouse.
WW—Westinghouse or Wagner

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group
4R—Forward and rear units of Rear Axle Group.
—All wheels.

BRAKES—SERVICE

Location

4—Four Wheels, front and rear.
4r—Four Wheels, rear only.

Type

I—Internal.
X—Exterbal.

Operation

A—Air.
H—Hydraulic.
V—Vacuum.
D or Dp—Dual Primary

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
P—Back of Power Divider.
J—Jackshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
M—Mechanical.
X—External.
PD—Two drums on rear of power divider.

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Foundry.
c—Cast iron.
Cc—Composite Front, Cast Iron in rear.
Ce—Centrifuse.
Cl—Copper iron.
Co—Composite.
D—Dayton.
E—Ermalite.
G—Gunite.
N—Nickel iron.
S—Steel.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center
Tf—Tapered front.
A—Straight section sidemembers, lined with oak inserts.
Z—Reinforced (X) member frame, box type sections.

REAR AXLE

Final Drive and Type

B—Bevel.
CD—Chain Drive.
F—Full-floating.
H or Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
¾—Three Quarters Floating.
½—Semi-Floating.
T—Torque Tube.

GEAR RATIOS

(**) Only one ratio.

Drive and Torque

H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods.
T—Torque Arm.

GOVERNOR STANDARD

Y—Yes.
N—No.

(Continued from Page 147)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	Forward Speeds	REAR AXLE: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	Type
	Available																													
1	(c.o.e.) 200				15000	5500●	7.00/20D	8.25/20	Wau BM	6–3½x4 11/16	263	5.9	178	78–2800	7–2 ¼x10 ¼	N	WG T9	4	Tim E100DPH	HF	H	** –6.20	Tim 32502H	L4IHV	314	534	a	TX	.....	10x3x ¼	T
2	(c.o.e.) 225				16500	6200●	7.50/20D	8.25/20	Wau BZ	6–4x4 ¼	320	5.9	235	105–3200	7–2 ¼x10 ¼	N	WG T97	4	Tim E100DPH	HF	H	** –6.20	Tim 32502H	L4IHV	314	534	a	TX	.....	10x3x ¼	T
3	(c.o.e.) 250				20000	6400●	8.25/20D	9.00/20	Wau BZ	6–4x4 ¼	320	5.9	235	105–3200	7–2 ¼x10 ¼	N	Fu 5A330	5	Tim H100DPH	HF	R	–6.80	Tim 32502H	L4IHV	344	584	a	TX	.....	10x3x ¼	T
4	(c.o.e.) 400				22000	6800●	9.00/20D	10.00/20	Wau BZ	6–4x4 ¼	320	5.9	235	105–3200	7–2 ¼x10 ¼	N	Fu 5A330	5	Tim L100DPH	HF	R	–6.83	Tim 35000H	L4IHV	370	642	a	TX	.....	12x3x ¼	T
5	(c.o.e.) 500				23000	7500●	9.00/20D	10.00/20	Wau MZA	6–4 1/16x4 ¼	404	5.6	285	130–3000	7–2 ¾x12 ½	Y	Fu 5F430	5	Tim L100DPH	HF	R	–6.83	Tim 35000H	L4IHV	370	642	a	TX	.....	12x3x ¼	T
6	(c.o.e.) 550				28000	8100●	10.00/20D	11.00/20	Wau MZA	6–4 1/16x4 ¼	404	5.6	285	130–3000	7–2 ¾x12 ½	Y	Fu 5F430	5	Tim Q100DPH	HF	R	–7.80	Tim 26452H	L4IHV	458	846	a	TX	.....	12x3x ¼	T
7	(c.o.e.) 550 X				32000	9600●	10.00/20D	11.00/24	Wau MZA	6–4 1/16x4 ¼	404	5.6	285	130–3000	7–2 ¾x12 ½	Y	Fu 5F430	5	Tim S200DPH	2F	R	–7.84	Tim 26452H	L4IHV	576	1054	a	FD	.....	14x3x ¼	T
8	(c.o.e.) 600				28000	10000●	10.00/20D	11.00/24	Wau 140 GK	6–4 1/16x5 ½	525	6.4	425	172–2600	7–3 1/16x13 7/8	Y	Fu 5A650	5	Tim R100P	HF	R	–7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x ¼	T
9	(c.o.e.) 601				28000	10900●	10.00/20D	11.00/24	Wau 145 GK	6–5 1/16x6	779	6.2	595	240–2400	7–3 1/16x17 ¾	Y	Spi 7851	4	Tim R100P	HF	R	–7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x ¼	T
10	(D) (c.o.e.) 602				28000	11200●	10.00/20D	11.00/24	Cum HB600	6–4 1/16x6	672	17.	500	150–1800	7–4 1/16x16 ½	Y	Spi 7851	4	Tim R100P	HF	R	** –7.40	Tim 26452TW	L4IA	566	950	a	FD	.....	14x3x ¼	T
11	Biederman NSH		130	190	21000	6070	8.25/20D	10.00/20	Her JXLD	6–4x4 ½	339	6.9	272	131–3200	7–2 1/16x10 11/16	N	Fu 5A330	5	TimH700DPH	SF	H	** –7.2	Tim 35000HX	LH4IH	514	744	G	T	60	9x3x 1/16	C
12	NSD		130	190	21000	6070	8.25/20D	10.00/20	Her JXLD	6–4x4 ½	339	6.9	272	131–3200	7–2 1/16x10 11/16	N	Fu 5A330	5	TimH700DPH	2D	H	6.13–8.15	Tim 35000HX	LH4IH	514	744	G	T	60	9x3x 1/16	C
13	NSR		140	171	21000	7420	8.25/20D	10.00/20	Her JXLD	6–4x4 ½	339	6.9	272	131–3200	7–2 1/16x10 11/16	N	Spi 3541UP	5	TimH110DPH	HFd	H	** –6.4	Tim 35141PX	T4A	.....	.....	G	T	.....	9x3x 1/16	C
14	HL		93	197	30000	12200	10.00/24D	12.00/24	Wau 140 GK	6–4 1/16x5 1/16	525	6.4	425	172–2600	7–3 1/16x13 11/16	Y	Spi 6252A	5	Tim R200	HFd	H	6.41–8.37	Tim 36000TW	T4A	.....	.....	G	T	81	10x3x ¼	C
15	Brown R6572T		144	166	33000	.....	11.00.22	12.00/24	Con R6572	6–4 1/16x5 1/16	572	5.9	440	172–2600	7–3 1/16x14 1/16	Y	Spi 6252B	5	Tim R100	Hy	H	** –5.28	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
16	140GKT		144	166	33000	.....	11.00/22	12.00/24	Wau 140GK	6–4 1/16x5 1/16	525	6.4	425	168–2400	7–2 1/16x13 11/16	Y	Spi 6252B	5	Tim R100	Hy	H	** –5.28	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
17	(D) HB600T		144	166	33000	.....	11.00/22	12.00/24	Cum HB600	6–4 1/16x6	672	17.	500	150–1800	7–4 1/16x16 1/16	Y	Fu 5A650	5	Tim R100	Hy	H	** –5.28	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
18	(D) HRB600T		144	166	33000	.....	11.00/22	12.00/24	Cum HRB600	6–5 1/16x6	743	15.	530	165–1800	.....	Y	Fu 5A920	5	Tim R100	Hy	H	** –5.28	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
19	(D) NHB600T		144	166	33000	.....	11.00/22	12.00/24	Cum NHB600	6–5 1/16x6	743	15.	575	200–2100	.....	Y	Fu 5A920	5	Tim 8200	2F	H	** –6.42	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
20	(D) HRBB600T		144	166	33000	.....	11.00/22	12.00/24	Cum HRBB600	6–5 1/16x6	743	15.	500	175–2000	.....	Y	Fu 5A650	5	Tim R100	Hy	H	** –5.28	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
21	(D) 6DA844T		144	166	33600	.....	11.00/22	12.00/24	Bu 6DC844	6–5 1/16x6 1/16	844	...	640	210–2100	.....	Y	Spi 8045	4	Tim R300	....	H	.....	Tim FE900	Ws4IA	.....	.....	a	2M	67	9 1/16x3 1/16x1 1/16	Tf
22	Chevrolet JP	945	116	....	4800	▼2550	6.00/168	158	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	3	Own	Hy	T	** –4.11	Own	O4IH	158	259	Co	2IM	39	5¾x2 1/16x ¾	C
23	JR	1070	125	....	5800	▼2820	158	7.50/17S	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	3	Own	HyF	H	†† –4.57	Own	O4IH	176	272	Co	2IM	48 1/16	5 1/16x2 1/16x ¾	C
24	†Fwd. Control JT	1090	125	....	7000	▼2675	158	7.50/17S	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	182	92–3400	4– ♦ ♦	N	Own	3	Own	HyF	H	†† –5.14	Own	O4IH	202	302	Co	2IM	.....	5 1/16x2 1/16x ¾	C
25	JS	1155	137	....	8800	▼3155	7.00/17S	7.00/18	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	4	Own	HyF	H	** –5.14	Own	O4IH	248	371	Co	2IM	60	7x2¾x ¾	C
26	†Fwd. Control JU	1190	137	...	10000	▼2915	7.00/17S	7.00/18	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	182	92–3400	4– ♦ ♦	N	Own	4	Own	HyF	H	** –5.14	Own	O4IH	248	371	Co	2IM	.....	7x2 1/16x ¾	C
27	UJ	1240	137	....	14000	▼3815	6.50/20D	7.50/20	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	60	7x2 1/16x ¾	C
28	UK	1275	161	....	14000	▼3930	6.50/20D	7.50/20	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	84	8 1/16x2 1/16x ¾	C
29	(School bus) UL	1405	161	....	12000	▼4170	6.50/20D	7.00/20	O-Thrift Mas.	6–3½x3¾	216	6.6	176	92–3400	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	.....	8 1/16x2 1/16x ¾	C
30	UVS	1550	137	....	15000	▼4250	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫ –6.17	Own	O4IH	356	553	Ce	TIX	60	8 1/16x2 1/16x ¾	C
31	UWS	1585	161	....	15000	▼4330	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫ –6.17	Own	O4IH	356	553	Ce	TIX	84	8 1/16x2 1/16x ¾	C
32	UYS	1625	179	....	15000	▼4460	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫ –6.17	Own	O4IH	356	553	Ce	TIX	102	8 1/16x2 1/16x ¾	C
33	(c.o.e.) UPS	●1920	110	....	15000	●▼4735	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	60½	8 1/16x2 1/16x ¾	C
34	(c.o.e.) URS	●1955	134	....	15000	●▼4830	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	84½	8 1/16x2 1/16x ¾	C
35	(c.o.e.) USS	●1990	158	....	15000	●▼4925	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	108½	8 1/16x2 1/16x ¾	C
36	(c.o.e.) UP	●1920	110	....	16000	●▼4735	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	60½	8 1/16x2 1/16x ¾	C
37	(c.o.e.) UR	●1955	134	....	16000	●▼4830	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	84½	8 1/16x2 1/16x ¾	C
38	(c.o.e.) US	●1990	158	....	16000	●▼4925	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	190	100–3500	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	108½	8 1/16x2 1/16x ¾	C
39	UV		1550	137	....	16000	▼4250	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	60	8 1/16x2 1/16x ¾	C
40	UW	1585	161	....	16000	▼4330	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	84	8 1/16x2 1/16x ¾	C
41	UY	1625	179	....	16000	▼4460	7.50/20D	9.00/20▲▼	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	102	8 1/16x2 1/16x ¾	C
42	(School bus) UX	1635	199	....	15000	▼4705	7.50/20D	8.25/20	O-Load Mas.	6–3 1/16x3 1/16	235	6.7	193	105–3600	4– ♦ ♦	N	Own	4	Own	HyF	H	▫▫ –6.17	Own	O4IH	356	553	Ce	TIX	.....	8 1/16x2 1/16x ¾	C
43	Corbitt. G101B■		137	....	22000	.....	9.00/20	10.00/20	Con M6330	6–4x4 ¾	330	6.1	248	104–2800	7–2 ⅝x12	Y	Cla 205V	5	Tim L100	HF	H	4.11–7.40	Tim 32502	LT4IHV	466	820	a	TX	61	8x3 ¼x ¼	T
44	G301B■		155	....	26000	.....	10.00/22	11.00/22	Con B6371	6–4 1/16x4 ⅝	371	6.0	280	100–2600	7–2 1/16x13 1/16	Y	Fu 5A43	5	Tim Q200	2F	H	7.77–8.53	Tim 35100	LT4IHV	730	1016	a	TX	71	8 1/16x3 ¼x ¾	T
45	G302B■		145	....	28000	.....	10.00/22	11.00/22	Con B6427	6–4 1/16x4 ⅞	427	5.9	325	127–2600	7–2 1/16x13 1/16	Y	Fu 5A43	5	Tim R300	2F	H	6.41–8.37	Tim 35100	Ws4IA	598	950	a	TX	61	8 1/16x3 ¼x ¾	T
46	G603B34		155	....	34000	.....	10.00/20	12.00/24	Con R6602	6–4 1/16x5 3/16	602	5.9	464	200–2600	7–3 1/16x14 1/16	Y	Fu 5A65	5	Tim U200	2F	H	5.91–9.76	Tim FE900	Ws4IA	672	1054	a	TD	72	10 1/16x3 ¼x1 1/16	TL
47	(T) G101T20		137	....	20000	.....	8.25/20	9.00/20	Con M6330	6–4x4 ¾	330	6.1	248	104–2800	7–2 ⅝x12	Y	Cla 205V	5	Tim H100	HF	H	** –5.29	Tim 32502	Ws4IA	418	642	a	TX	61	7 1/16x3 ¼x ¾	T
48	(T) G302T22		137	....	22000	.....	9.00/20	10.00/22	Con B6427	6–4 1/16x4 1/16	427	5.9	325	127–2600	7–2 1/16x13 1/16	Y	Fu 5A43	5	Tim L100	HF	H	** –5.29	Tim 32502	Ws4IA	490	746	a	TX	61	7 1/16x3 ¼x ¾	T
49	(T) G402T25		145	....	25000	.....	10.00/20	10.00/22	Con T6427	6–4 1/16x4 1/16	427	6.3	336	151–2600	7–2 1/16x13 1/16	Y	Fu 5A43	5	Tim Q100	HF	H	5.29–6.83	Tim 35000	Ws4IA	562	850	a	TX	61	8x3 ¼x ¼	T
50	(T) G602T27		147	....	28000	.....	10.00/22	11.00/24	Con R6572	6–4 1/16x5 1/16	572	5.9	440	189–2600	7–3 1/16x14 1/16	Y	Spi 6253	5	Tim R100	HF	H	6.17–7.40	Tim 35100	Ws4IA	598	950	a	2M	64	8 1/16x3 ¼x ¾	T
51	(T) (D) D202T20		137	....	20000	.....	8.25/20	9.00/20	Her DJXH	6–3 1/16x4 1/16	298	15.	233	99–2600	7–3x10 ¼	Y	Cla 205VO	5	Tim H300	2dF	H	6.13–8.15	Tim 32502	Ws4IA	418	642	a	TX	61	7 1/16x3 ¼x ¾	T
52	(T) (D) D401T23		145	....	23000	.....	10.00/20	10.00/22	Her DWXD	6–4 1/16x4 ¼	404	15.	404	135–2600	7–3 1/16x11 1/16	Y	Fu 5A430	5	Tim L300	2dF	H	6.32–8.22	Tim 35000	Ws4IA	490	746	a	TX	61	8x3 ¼x1 ¼	T
53	(T) (D) D402T25		145	....	25000	.....	10.00/20	10.00/22	Her DWXLD	6–4 1/16x5	426	15.	336	142–2600	7–3 1/16x11 1/16	Y	Fu 5A430	5	Tim Q300	2dF	H	6.53–8.53	Tim 35000	Ws4IA	562	850	a	TX	61	8x3 ¼x1 ¼	T
54	(T) (D) D404T26		145	....	26000	.....	10.00/22	.....	Cum JB8600	6–4 1/16x5	401	...	345	150–2500	7–3 1/16x ...	Y	Fu 5A620	5	Tim Q100	HF	H	5.29–6.83	Tim 35100	Ws4IA	598	950	a	2M	61	8x3 ¼x ¼	T
55	(T) (D) D601T27		150	....	27000	.....	10.00/22	11.00/24	Her DRXC	6–4 1/16x5 1/16	529	15.	400	147–2200	7–3 1/16x13 ¼	Y	Spi 6253	5	Tim R300	2dF	H	6.41–8.37	Tim 35100	Ws4IA	598	950	a	2M	67	8 1/16x3 ¼x ¾	T
56	(T) (D) D800 Ser.‡‡		160	....	30000	.....	10.00/22	11.00/24	Cum HB600	6–4 1/16x6	672	17.	500	150–1800	7–4 1/16x16 1/16	Y	Fu 5C720	5	Tim R100	HF	H	5.29–6.83	Tim FE900	Ws4IA	598	950	a	2M	66	8 1/16x3 ¼x ¾	T
57	Crosley B		80	....	2130	1330°°	4.50/12	.....	Own	4–2 1/16x2 1/16	44	7.8	33	25.5	5200 5–‡		WG-ASI-T92	3	Spi	2F		** –5.17	Own	B4IH	65 ¼	....	e	2	.....	.....	C
58	Dodge B-3-B		108	108	4850	.....	6.00/168	6.50/168	Own T-306	6–3 1/16x4 1/16	218	7.0	175	97–3600	4–2 1/16x4.8	N	NP-88840	3	Own T-306	H½	H	3.73–4.78	Own T-306	O4IH	175	264	Ce	TX	40	¼x2 ¼x6 ¼	C
59	B-3-C		116	116	5800	.....	7.00/158	7.00/158	Own T-308	6–3 1/16x4 1/16	218	7.0	175	97–3600	4–2 1/16x4.8	N	NP-88840	3	Own T-308	H½	H	4.1 –4.78	Own T-308	O4IH	184	276	Co	TX	48	¼x2 ¼x6 ¼	C
60	B-3-D		116	126	8000	.....	6.00/168△	7.50/17	Own T-310	6–3 1/16x4 3/16	230	7.0	190	103–3600	4–2 1/16x4.8	N	NP-88770	3	Own T-310	HyF	H	3.9 –4.89	Own T-310	O4IH	209	316	Co	TX	48	¼x2 ¼x6 1/16	C
61	Rt. Van Sp. B3DU		102	117	9600	.....	6.50/16△	8.25/16S	Own T-164	6–3 1/16x4 3/16	230	7.0	190	99–3600	4–2 1/16x4.8	N	NP-88490	3	Own T-164	HyF	H	3.9 –4.89	Own T-164	O4IH	209	316	Co	TX	.....	¼x2 ¼x6 ¼	C
62	Rt. Van Sp. B3EU		102	142	10100	.....	7.50/16•	9.00/16S	Own T-165	6–3 1/16x4 3/16	230	7.0	190	99–3600	4–2 1/16x4.8	N	NP-88500	3	Own T-165	HyF	H	4.89–5.8	Own T-165	O4IH	234	355	Co	TX	.....	¼x2 ¼x6 ¼	C
63	B-3-FL		128	152	9000	.....	6.00/20‡	8.25/20	Own T-314	6–3 1/16x4 1/16	236	6.6	192	109–3600	4–2 1/16x5.04	N	NP-39760	4	Own T-314	HyF	H	5.62–6.8	Own T-314	O4IH	336	479	Ce	TX	60	¼x2 ¼x8 ¼	C
64	B-3-F		128	170	13500	.....	6.50/20	7.50/20	Own T-314	6–3 1/16x4 1/16	236	6.6	192	109–3600	4–2 1/16x5.04	N	NP-39760	4	Own T-314	HyF	H	5.62–6.8	Own T-314	O4IH	336	479	Ce	TX	60	¼x2 ¼x8 ¼	C

¶—8.25/20 front tires are required when 9.00/20 dual rears are used.
••—Pick-up truck; panel delivery 1360.
●—Includes cab.

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::—Own Loadmaster engine available on models UJ-UK-UL at extra cost.
□—5.43 axle available on Models UJ-UK-UL and 2-speed axle available on UVS-UWS-UYS-UP-UPS-UR-URS-US-USS-UV-UW-UY-UX.
•—Front only, rear 8.25/16.

‡—Front only: Rear 6.50/20S.
△—7.50/20 can be used on the front with no decrease in G.V.W. when 8.25/20 are used on dual rear wheels.
■—Available with optional tires and axles for less G.V.W. rating.
‡‡—Also available with Cummins HRB600, HRBB600, and NHB600.

†—Forward control Chassis for Door-to-Door delivery bodies. These chassis do not have cowl.
††—Also available in 5.14 ratio.
▲—Front only; Rear 7.00/16S.
§—1 Front 1.375x1.312; 3 Center 1.375x.870; 1 Rear 1.500x1.499.
¶—4-speed transmission available.

♦♦—Diameter: (Average) Front, 2.6858; Front Center, 2.7168; Rear Center, 2.7478; Rear, 2.7788; Total length, 5¾.
▼—Includes spare tire, full fuel tank and cooling system.
♦—For only single rear; Dual rear are 7.50/20.

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MACK TRUCKS

Get Things Done!

● Extra effort — that's the order of the day as American industry swings into high gear to meet the growing demands of the nation's expanding defense program.

Nowhere is this more important than in vital truck transportation — the mobile assembly line that keeps raw materials flowing to plants and factories... speeds the products of America's farms and industries to consumers and the armed forces.

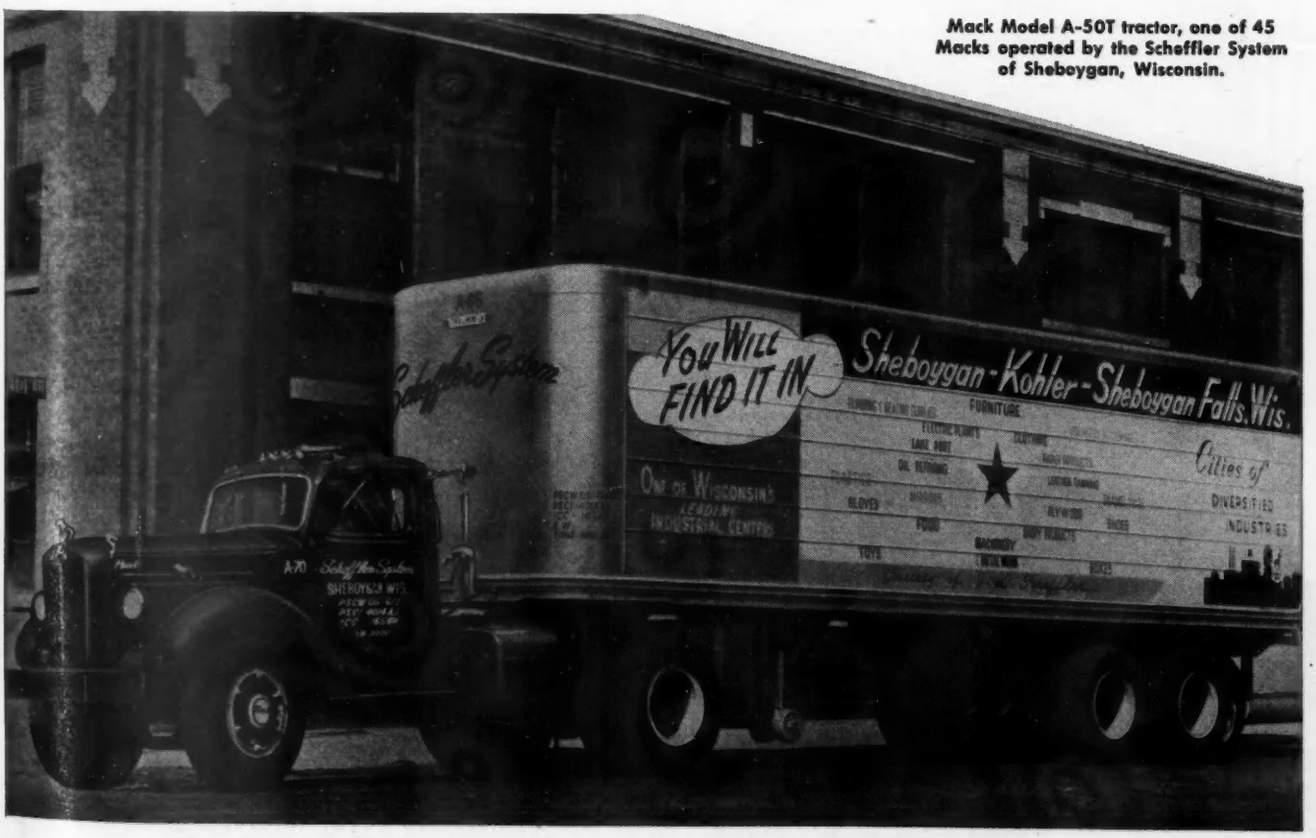
Here's work that's cut out for Mack trucks... jobs where sturdy Macks show at their best in *extra* strength and stamina, *extra* performance and *extra* dependability.

Your nearest Mack branch or distributor will show you how Mack's exclusive design and construction can cut *truck absenteeism* on your particular job... *get things done* faster, more dependably and with lower cost. You'll find it's a story well worth hearing.

Mack TRUCKS

... outlast them all

Mack Trucks, Empire State Bldg., New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; Long Island City, N. Y. Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.



Mack Model A-50T tractor, one of 45 Macks operated by the Scheffler System of Sheboygan, Wisconsin.

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G.V.W. rating. 1,500x1,499. ‡—Also available with Cummins HRB600, HRBB600, and NHB600. ‖—4-speed transmission available. ‡—For only single rear; Dual rear are 7.50/20. UX. •—Front only, rear 8.25/16.

(Continued from Page 148)

Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number	Main Bearings: Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Speeds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make	BRAKES SERVICE: Location	BRAKES SERVICE: Type Operation	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
	Dodge—Cont'd																																	
1	B-3-FA		128	170	13500		6.50/20	7.50/20	Own T-314	6–3 1/2 x 4 1/4	236	6.6	192	109–3600	4	2 1/4 x 5.04	N	NP-39760	4	Eat 1350	SFd	H	5.83–8.11	Own TX-314	O4IH	336	479	Ce	TX	60	1/4 x 2 1/2 x 8 1/4	C
2	B-3-G		128	192	14500		6.50/20 44	8.25/20	Own TX-314	6–3 1/2 x 4 1/4	236	6.6	192	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Own TX-314	HyF	H	5.62–6.8	Own TX-314	O4IH	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
3	B-3-GA		128	192	14500		6.50/20 44	8.25/20	Own TX-314	6–3 1/2 x 4 1/4	236	6.6	192	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Eat 1350	SFd	H	5.83–8.81	Own TX-314	O4IH	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
4	B-3-GM		107	161	14750		6.50/20	8.25/20	Own TX-326	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Own TX-326	HyF	H	5.62–6.8	Own TX-326	O4IH	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
5	B-3-GMA		107	161	14750		6.50/20	8.25/20	Own TX-326	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Eat 1350	SFd	H	5.83–8.81	Own TX-326	O4IH	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
6	B-3-H		128	192	16000		7.50/20	8.25/20	Own T-316	6–3 1/2 x 4 1/4	236	6.6	193	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Own T-316	HyF	H	6.28–6.8	Own T-316	O4IHV	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
7	B-3-HA		128	192	16000		7.50/20	8.25/20	Own T-316	6–3 1/2 x 4 1/4	236	6.6	193	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Eat 1350	SFd	H	5.83–8.81	Own T-316	O4IHV	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
8	B-3-HM		107	161	16250		7.50/20	8.25/20	Own T-328	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Own T-328	HyF	H	6.28–6.8	Own T-328	O4IHV	336	479	Ce	TX	60	.21 x 2 1/2	x 8 1/4	C
9	B-3-HMA		107	161	16250		7.50/20	8.25/20	Own T-328	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Eat 1350	SFd	H	5.83–8.81	Own T-328	O4IHV	336	479	Co	TX	60	.21 x 2 1/2	x 8 1/4	C
10	B-3-HH		128	192	16000		7.50/20	8.25/20	Own T-316	6–3 1/2 x 4 1/4	236	6.6	193	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Own T-316	HyF	H	6.28–6.8	Own T-316	O4IHV	336	479	Co	TX	60	.21 x 2 1/2	x 8 1/4	C
11	B-3-HHA		128	192	16000		7.50/20	8.25/20	Own T-316	6–3 1/2 x 4 1/4	236	6.6	193	109–3600	4	2 1/4 x 5.04	N	NP-88570	4	Eat 1350	SFd	H	5.83–8.81	Own T-316	O4IHV	336	479	Co	TX	60	.21 x 2 1/2	x 8 1/4	C
12	B-3-HHM		107	161	16250		7.50/20	8.25/20	Own T-328	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Own T-328	HyF	H	6.28–6.8	Own T-328	O4IHV	336	479	Co	TX	60	.21 x 2 1/2	x 8 1/4	C
13	B-3-HHMA		107	161	16250		7.50/20	8.25/20	Own T-328	6–3 1/2 x 4 1/4	236	6.6	186	105–3600	4	2 1/4 x 5.04	N	NP-88850	4	Eat 1350	SFd	H	5.83–8.81	Own T-328	O4IHV	336	479	Co	TX	60	.21 x 2 1/2	x 8 1/4	C
14	B-3-JL		128	212	17000		6.50/20	9.00/20	Own T-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Own T-318	HyF	H	6.28–7.16	Own T-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
15	B-3-JAL		128	212	17000		6.50/20	9.00/20	Own T-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Eat 1350	SFd	H	5.83–8.81	Own T-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
16	B-3-J		128	212	17000		6.50/20	9.00/20	Own T-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Own T-318	HyF	H	6.28–7.16	Own T-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
17	B-3-JA		128	212	17000		6.50/20	9.00/20	Own T-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Eat 1350	SFd	H	5.83–8.81	Own T-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
18	B-3-JML		107	161	17250		6.50/20	9.00/20	Own T-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Own T-330	HyF	H	6.28–7.16	Own T-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
19	B-3-JMAL		107	161	17250		6.50/20	9.00/20	Own T-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Eat 1350	SFd	H	5.83–8.81	Own T-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
20	B-3-JM		107	161	17250		6.50/20	9.00/20	Own T-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Own T-330	HyF	H	6.28–7.16	Own T-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
21	B-3-JMA		107	161	17250		6.50/20	9.00/20	Own T-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Eat 1350	SFd	H	5.83–8.81	Own T-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
22	B-3-KL		128	212	18000		8.25/20 ▲	9.00/20	Own TX-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Tim H-101	HyF	H	6.8 –7.2	Own TX-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
23	B-3-KAL		128	212	18000		8.25/20	9.00/20	Own TX-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Eat 1650	SFd	H	6.14–9.04	Own TX-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
24	B-3-K		128	212	18000		8.25/20	9.00/20	Own TX-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Tim H-101	HyF	H	6.8 –7.2	Own TX-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
25	B-3-KA		128	212	18000		8.25/20	9.00/20	Own TX-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/4 x 5.04	N	NP-88700	5	Eat 1650	SFd	H	6.14–9.04	Own TX-318	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
26	B-3-KML		107	161	18250		8.25/20	9.00/20	Own TX-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Tim H-101	HyF	H	6.8 –7.2	Own TX-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
27	B-3-KMAL		107	161	18250		8.25/20	9.00/20	Own TX-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Eat 1650	SFd	H	6.14–9.04	Own TX-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
28	B-3-KM		107	161	18250		8.25/20	9.00/20	Own TX-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Tim H-101	HyF	H	6.8 –7.2	Own TX-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
29	B-3-KMA		107	161	18250		8.25/20	9.00/20	Own TX-330	6–3 1/2 x 4 1/2	250	6.6	200	109–3600	4	2 1/4 x 5.04	N	NP-88920	5	Eat 1650	SFd	H	6.14–9.04	Own TX-330	O4IHV	396	553	e	TX	60	1/4 x 2 1/2	x 8 1/4	CP
30	B-3-R		130	229	19000		7.50/20	9.00/20	Own T-320	6–3 1/4 x 4 1/2	306	6.4	253	137–3000	7	3x11.23	N	NP-88220	5	Tim H-100	HyF	H	6.8 –7.2	Own T-320	O4IHV	397	609	e	TX	60	1/4 x 2 1/2	x 9 1/2	CP
31	B-3-RA		130	229	19000		7.50/20	9.00/20	Own T-320	6–3 1/4 x 4 1/2	306	6.4	253	137–3000	7	3x11.23	N	NP-88220	5	Tim H-300	SFd	H	6.16–8.19	Own T-320	O4IHV	397	609	e	TX	60	1/4 x 2 1/2	x 9 1/2	CP
32	B-3-T		130	190	22000		7.50/20	10.00/20	Own T-322	6–3 1/4 x 5	331	6.4	280	145–3000	7	3x11.23	N	NP-88450	5	Tim L-100	HyF	H	6.8 –7.2	Tim 32500	O4IHV	425	666	e	TX	60	1/4 x 3x10		CP
33	B-3-TA		130	190	22000		7.50/20	10.00/20	Own T-322	6–3 1/4 x 5	331	6.4	280	145–3000	7	3x11.23	N	NP-88450	5	Tim L-300	SFd	H	6.36–9.18	Tim 32500	O4IHV	425	666	e	TX	60	1/4 x 3x10		CP
34	B-3-V		130	190	24000		9.00/20†	11.00/20	Own TX-322	6–3 1/4 x 5	331	6.4	280	145–3000	7	3x11.23	N	NP-88450	5	Tim Q-100	HyF	H	6.8 –7.8	Tim 32500	O4IHV	486	770	e	TX	60	1/4 x 3x10		CP
35	B-3-VA		130	190	24000		9.00/20†	11.00/20	Own TX-322	6–3 1/4 x 5	331	6.4	280	145–3000	7	2x11.23	N	NP-88450	5	Tim Q-300	SFd	H	6.42–9.55	Tim 32500	O4IHV	486	770	e	TX	60	1/4 x 3x10		CP
36	B3YL, Y		130	190	28000		9.00/20†	11.00/20	Own T-324	6–4x5	377	6.5	330	154–3000	7	3x11.23	Y	Cla-290-V2	5	Tim Q-100	HyF	H	6.8 –7.4	Tim 32500	O4IHV	486	770	e	TX	60	1/4 x 3 1/2 x 10		CP
37	B3YAL, YA		130	190	28000		9.00/20†	11.00/20	Own T-324	6–4x5	377	6.5	330	154–3000	7	3x11.23	Y	Cla-290-V2	5	Tim Q-300	SFd	H	6.42–8.38	Tim 32500	O4IHV	486	770	e	TX	60	1/4 x 3 1/2 x 10		CP
38	Sch Bu's B-3-FS		152	170	13000		6.50/20	7.50/20	Own TS-314	6–3 1/2 x 4 1/2	236	6.6	192	109–3600	4	2 1/2 x 5.04	N	NP-39760	4	Own TS-314	HyF	H	5.62–6.8	Own TS-314	O4IHV	336	479	Ce	TX		.21 x 2 1/2	x 8 1/4	C
39	B3-GS		192	192	14650		7.50/20	8.25/20-10	Own TX8-314	6–3 1/2 x 4 1/2	236	6.6	192	109–3600	4	2 1/2 x 5.04	N	NP-88570	4	Own TX8-314	HyF	H	5.62–6.8	Own TX8-314	O4IHV	336	479	Ce	TX		.21 x 2 1/2	x 8 1/4	C
40	B3-HHS		192	192	15500		7.50/20	8.25/20	Own TS-316	6–3 1/2 x 4 1/2	236	6.6	193	109–3600	4	2 1/2 x 5.04	N	NP-88570	4	Own TS-316	HyF	H	5.62–6.8	Own TS-316	O4IHV	336	479	Ce	TX		.21 x 2 1/2	x 8 1/4	CP
41	B-3-JS		212	212	17000		7.50/20	8.25/20	Own TS-318	6–3 1/2 x 4 1/2	250	6.6	206	114–3600	4	2 1/2 x 5.04	N	NP-88700	5	Own TS-318	HyF	H	6.28–7.16	Own TS-318	O4IHV	396	553	e	TX		1/4 x 2 1/2	x 8 1/4	CP
42	B-3-RS		229	229	19000		8.25/20	9.00/20	Own TS-320	6–3 1/4 x 4 1/2	306	6.4	245	122–3200	7	3x11.23	Y	NP-88220	5	Tim H100	HyF	H	6.8 –7.2	Tim 32500	O4IHV	397	609	e	TX		1/4 x 2 1/2	x 9 1/2	CP
43	Duplex T		136	220	20000	6600	8.25/20D	9.00/20	Her JXD	6–4x4 1/4	320	6.2	240	113–3000	7	2 1/4 x 10	Y	Fu 5B330	5	Tim H100	B	H	** –7.20	Tim 32502	L4IHV	420	654	A	TX	57 1/2	9 1/2 x 3 1/2 x 1/4	C
44	TH-404		136	220	20000	6900	8.25/20D	9.00/20	Her WXLC3	6–4 1/2 x 4 1/2	404	5.8	312	139–2600	7	2 1/2 x 13 1/4	Y	Fu-5A430	5	Tim H-300	DF	H	6.13–8.15	Tim 32503	L4IHV	420	654	A	TX	49 1/2	9 1/2 x 3 1/2 x 1/4	C
45	R		136	220	20000	6820	9.00/20D	10.00/20	Her WXLC-3	6–4 1/2 x 4 1/2	404	5.8	312	139–2600	7	2 1/2 x 13 1/4	Y	Fu 5A43	5	Tim Q300	DF	H	6.53–8.53	Tim FD900	L4IHV	730	1016	A	TX	49 1/2	9 1/2 x 3 1/2 x 1/4	C
46	SH-501		172	208	28000	9500	10.00/20	11.00/20	Her RXB	6–4 1/2 x 5 1/2	501	5.4	360	137–2400	7	3x13 1/4		Fu 5A620		Tim Q200	2F	R	** –7.77	Tim FD900	BW4IA	730	1016	A	TX	61 1/4	9 1/2 x 3 1/2 x 1/4	C
47	JHA		148	220	32000	9800	10.00/20D	11.00/20	Her RXB	6–4 1/2 x 5 1/4	501	5.4	360	137–2400	7	3x13 1/4	Y	Fu 5A620	5	Tim 8200	2F	R	** –9.83	Tim FE900	BW4IA	912	1311	A	TX	61 1/4	10 x 9.83	1/4	C
48	JH-558		148	220	32000	9800	10.00/20D	11.00/20	Her RXLD	6–4 1/2 x 5 1/4	558	6.3	430	154–2400	7	3 1/2 x 13 1/4	Y	Fu-5C650	5	Tim S-300	DF	R	6.41–8.37	Tim FE900	BW4IA	912	1311	A	TX	60 1/4	10 1/4 x 3 1/2 x 1/4	C
49	KH		148	220	34000	10500	11.00/20D	11.00/20	Her RXC	6–4 1/2 x 5 1/4	529	5.4	395	132–2300	7	3x13 1/4	Y	Fu 5A620	5	Tim U-200	2F	R	** –9.83	Tim FE900	BW4IA	912	1311	A	TX	60 1/4	10 1/4 x 3 1/2 x 1/4	C
50	LH		148	220	37000	11300	11.00/20D	11.00/20	Her RXLD	6–4 1/2 x 5 1/4	558	5.4	430	154–2400	7	3 1/2 x 13 1/4	Y	Fu 5C650	5	Tim U-200	2F	R	** –9.83	Tim FE900	BW4IA	912	1311	A	TX	60 1/4	10 1/4 x 3 1/2 x 1/4	C
51	Federal 1501T		136	196	12000	▲4880	6.50/208	7.50/208	Herc QXLDF	6–3 1/2 x 4 1/4	236	6.6	190	90–3200	7	2 1/4 x 10	N	WG T9	4	T53547DPH	BF	H	5.66	Tim 30000H X	L4IHV	310	482	a	TX	60 1/2	9 x 3 x 1/4		T
52	1601T		136	250	16000	▲5370	7.00/20D	7.50/20	Her QXLDF	6–3 1/2 x 4 1/4	236	6.6	190	90–3200	7	2 1/2 x 10	N	WG T9	4	T 53547DPH	BF	H	** –5.66	Tim 30000HX	L4IHV	310	482	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
53	1602T		136	250	16000	▲5545	7.00/20D	8.25/20	Her QXLDF	6–3 1/2 x 4 1/4	236	6.6	190	90–3200	7	2 1/2 x 10	N	WG T9	4	Tim E300DPH	dF	H	6.13–8.10	Tim 30000HX	L4IHV	310	482	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
54	1801T		136	250	17500	▲5760	8.25/20D	8.25/20	Her JXBF	6–3 1/2 x 4 1/4	263	6.5	192	98–3200	7	2 1/2 x 10	N	WG T9	4	Tim E100DPH	SF	H	** –6.20	Tim 30003H	LT4IHV	314	532	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
55	1802T		136	250	17500	▲5890	8.25/20D	8.25/20	Her JXBF	6–3 1/2 x 4 1/4	263	6.5	192	98–3200	7	2 1/2 x 10	N	WG T9	4	Tim E300DPH	dF	H	6.13–8.10	Tim 30003H	LT4IHV	314	532	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
56	2501T		136	250	19000	▲6025	8.25/20D	9.00/20	Her JXCF	6–3 1/4 x 4 1/4	282	6.5	212	103–3200	7	2 1/2 x 10	N	WG T9	4	Tim H100DPH	SF	R	** –6.80	Tim 3100H	LT4IHV	346	583	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
57	2502T		136	250	19000	▲6105	8.25/20D	9.00/20	Her JXCF	6–3 1/4 x 4 1/4	282	6.5	212	103–3200	7	2 1/2 x 10	N	WG T9	4	Tim H300DPH	dF	R	6.13–8.15	Tim 3100H	LT4IHV	346	583	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
58	2901T		136	250	21500	▲6535	9.00/20D	10.00/20	Her JXDF	6–4 x 4 1/4	320	6.5	250	115–3100	7	2 1/2 x 10	N	Cla 205V	5	Tim L100DPH	SF	R	** –6.83	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
59	2902T		136	250	21500	▲6695	9.00/20D	10.00/20	Her JXDF	6–4 x 4 1/4	320	6.5	250	115–3100	7	2 1/2 x 10	N	Cla 205V	5	Tim L300DPH	dF	R	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
60	2904T		136	250	23500	▲7260	9.00/20D	10.00/20	Her JXDF	6–4 x 4 1/4	320	6.5	250	115–3100	7	2 1/2 x 10	N	Cla 205V	15	Tim Q-100	SF	R	** –6.83	Tim 32514H	LT4IHV	524	924	a	TD	60 1/2	9 1/4 x 3 x 1/4		T
61	3001T		136	250	22000	▲6375	9.00/20D	10.00/20	Herc JXLDF	6–4 x 4 1/2	339	6.5	272	131–3200	7	2 1/2 x 10	N	Cla 205V	5	Tim L100DPH	SF	R	** –6.83	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
62	3002T		136	250	22000	▲6735	9.00/20D	10.00/20	Herc JXLDF	6–4 x 4 1/2	339	6.5	272	131–3200	7	2 1/2 x 10	N	Cla 205V	5	Tim L300DPH	dF	R	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	9 1/4 x 3 x 1/4		T
63	3004T		136	250	24000	▲7300	9.00/20D	10.00/20	Herc JXLDF	6–4 x 4 1/2	339	6.5	272	131–3200	7	2 1/2 x 10	N	Cla 205V	15	Tim Q-100	SF	R	** –6.83	Tim 32514H	LT4IHV	524	924	a	TD	60 1/2	9 1/4 x 3 x 1/4		T
64	3401T		136	250	23000	▲7210	9.00/20D	10.00/20	Con T6371F	6–4 1/2 x 4 1/2	371	6.5	297	144–3000	7	2 1/2 x 13 1/2	Y	Cla 290V	5	Tim L100DPH	SF	R	** –6.83	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	10 x 3 1/4 x 1/4	•	T
65	3402T		136	250	23000	▲7370	9.00/20D	10.00/20	Con T6371F	6–4 1/2 x 4 1/2	371	6.5	297	144–3000	7	2 1/2 x 13 1/2	Y	Cla 290V	5	Tim L300DPH	dF	R	6.32–8.22	Tim 32514H	LT4IHV	466	820	a	TX	60 1/2	10 x 3 1/4 x 1/4	•	T
66	45M-45MA		143	203	27000	8005	10.00/20D	10.00/24	Con T6427F*	6–4 1/4 x 4 1/4	427	6.4	342	166–3000	7	2 1/2 x 13 1/2	Y	Cla 290VO ♦♦	5	Tim Q100P	SF	R	** –6.83	Tim FD-900	TW4IA	606	933	a	TD	60 1/2	10 x 3 1/4 x 1/4	•	T
67	45M2		143	203	27000	8380	10.00/20D	10.00/24	Con T6427F*	6–4 1/4 x 4 1/4	427	6.4	342	166–3000	7	2 1/2 x 13 1/2	Y	Cla 290VO	5	Tim Q300P	dF	R	6.53–8.53	Tim FD-900	TW4IA	606	933	a	TD	60 1/2	10 x 3 1/4 x 1/4	•	T
68	55M2-55M		143	203	30000	8635	11.00/22D	11.00/24	Con T6427F*	6–4 1/4 x 4 1/4	427	6.4	342	166–3000	7	2 1/2 x 13 1/2	Y	Cla 290VO	5	Tim 8300P ‡	HyF	R	6.53–8.53	Tim FD-900	Tw4IA	722	1051	a	TD	60 1/2	10 1/2 x 3 1/2 x 1/4	•	T
69	55MA		155	203	30000	8765	11.00/22D	11.00/24	Con T6427F*	6–4 1/4 x 4 1/4	427	6.4	347	166–3000	7	2 1/2 x 13 1/2	Y	Cla 290V ♦	15	Tim 8-200P	2F	R	** –7.08	Tim FD-900	TW4IA	722	1051	a	TD	72 1/2	10 1/2 x 3 1/4 x 1/4	•	T
70	60MA		155	203	32000	9600	11.00/22D	11.00/24	Con 22RF*	6–4 1/2 x 5 1/4	501	6.4	385	148–2400	7	2 3/4 x 14 1/2	Y	Fu 5A651	15	Tim 8200P	2F	R	** –7.08	Tim FD-900	Tw4IA	722	1051	a	FX	72 1/2	10 1/2 x 3 1/4 x 1/4	•	T
71	60M2-60M		143	203	32000	9370	11.00/22D	11.00/24	Con 22RF*	6–4 1/2 x 5 1/4	501	6.4	385	148–2400	7	2 3/4 x 14 1/2	Y	Fu 5A651	5	Tim 8300P ‡	HyF	R	6.53–8.53	Tim FD-900	Tw4IA	722	1051	a	TX	60 1/2	10 1/2 x 3 1/4 x 1/4	•	T
72	65M2-65M		141	201	33000	9995	11.00/22D	11.00/24	Con R6602F*	6–4 1/2 x 5 1/4	602	6.4	466	205–3000	7	3 1/4 x 14 1/2	Y	Fu 5A651	5	Tim 8300P ‡	HyF	R	6.53–8.53	Tim FE-900	We4IA	722	1051	a	TX	60 1/2	10 1/2 x 3 1/4 x 1/4	•	T
73	65MA		153	201	33000	10225	11.00/22D	11.00/24	Con R6602F*	6–4 1/2 x 5 1/4	602	6.4	466	205–3000	7	3 1/4 x 14 1/2	Y	Fu 5A651	15	Tim 8200P	HyF	R	** –7.08	Tim FE-900	We4IA	722	1051	a	TX	72 1/2	10 1/2 x 3 1/4 x 1/4	•	T
74	3404T		136	250	25000	7935	9.00/20D	10.00/20	Con T6371F	6–4 1/2 x 4 1/4	371	6.5	297	144–3000	7	2 1/2 x 13 1/2	Y	Cla 290V ♦♦	15	Tim Q-100	SF	R	** –6.83	Tim 32514H	LT4IHV	524	924	a	TX	60 1/2	9 1/2 x 3 x 1/4	‡	T

†—Front only; Rear 10.00/20.
‡—Front only; Rear 9.00/20.
:—For wheelbases below 196"—9x3x1/4.
▲—Includes cab.
‡—55M, 60M and 65M have single speed double reduction rear axle.
•—Five speed transmission obtainable
‡—Front only; Rear 7.50/20.
—For shorter wheelbases—10x3 1/2 x 1/4.
♦—Auxiliary trans. Spicer 6231B, three forward speeds.
‡—Auxiliary trans. Spicer 703F, three forward speeds.
*—Diesel engine obtainable.
:—Radius rods obtainable.
▼—Overdrive optional.
♦♦—3404T has auxiliary transmission.

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SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW TRUCKS BEST IN OLD TRUCKS

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Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES (D-dual rear S-single rear) Standard Front and Rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings Number	Main Bearings Diameter and Length	Governor Standard	TRANSMISSION Make and Model	Forward Speeds	REAR AXLE Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME Side Rail Dimensions	Type
	Ford F-1																														
1	Cowl....1HC-84	930	114	114	4700	2226	6.00/16-4	6.50/16-6S	Own 7HC	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 1C	3	Own 1C	H½	H	3.92-4.27	Own 8C	O4IH	178	259	Co	M2	40.06	5.92x2½x15	T
2	Cowl....1RC-84	960	114	114	4700	2266	6.00/16-4	6.50/16-6S	Own 8RC	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 1C	3	Own 1C	H½	H	3.92-4.27	Own 8C	O4IH	178	259	Co	M2	40.06	5.92x2½x15	T
	F-2																														
3	Cowl... 1HD-84	1045	122	122	5700	2616	6.50/16-6	7.50/16-6S	Own 7HD	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 1D	SF	H	** -4.86	Own 8D	O4IH	196	302	Co	TX	48.06	6x2¼x.19	T
4	Cowl....1RD-84	1075	122	122	5700	2656	6.50/16-6	7.50/16-6S	Own 8RD	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 1D	SF	H	** -4.86	Own 8D	O4IH	196	302	Co	TX	48.06	6x2¼x.19	T
	F-3																														
5	Cowl....1HY-84	1120	122	122	6800	2849	7.00/17-6S	7.50/17-8S	Own 7HY	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 1D	SF	H	** -4.86	Own 8D	O4IH	196	302	Co	TX	48.06	6x2¼x.19	T
6	Cowl....1RY-84	1150	122	122	6800	2889	7.00/17-6S	7.50/17-8S	Own 8RY	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 1D	SF	H	** -4.86	Own 8D	O4IH	196	302	Co	TX	48.06	6x2¼x.19	T
	F-3 Parcel Divy.																														
7	w/s.....1HJ	1375	104	104	7800	3030	7.00/16-6S	7.50/17-8S	Own 8HJ	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 8J	3	Own 8J	SF	H	** -4.86	Own 8J	O4IH	205	316	Co	TX	82●	6x2¼x.19	T
8	w/s.....1HJ	1390	122	122	7800	3100	7.00/16-6S	7.50/17-8S	Own 8HJ	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.2	N	Own 8J	3	Own 8J	SF	H	** -4.86	Own 8J	O4IH	205	316	Co	TX	100†	6x2¼x.19	T
	F-4																														
9	Cowl...1HTL-84	1175	134	134	10000	3457	7.00/20-8S	7.00/18-8	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-5.83	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
10	Cowl...1RTL-84	1205	134	134	10000	3497	7.00/20-8S	7.00/18-8	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-5.83	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
	F-5																														
11	Cowl....1HT-84	1220	134	134	14000	3646	6.50/20-6	7.50/20-8	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
12	Cowl....1RT-84	1250	134	134	14000	3686	6.50/20-6	7.50/20-8	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	60.06	7x2¾x.21	T
13	Cowl...1H8T-84	1250	158	158	14000	3796	6.50/20-6	7.50/20-8	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	84.06	7x2¾x.21●	TL
14	Cowl...1R8T-84	1280	158	158	14000	3836	6.50/20-6	7.50/20-8	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	84.06	7-2¾x.21●	TL
15	Cowl...1H6T-84	1370	176	176	14000	3926	6.50/20-6	7.50/20-8	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	102.3	7.08x2.79x½	TL●
16	Cowl...1R6T-84	1401	176	176	14000	3966	6.50/20-6	7.50/20-8	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RT	O4IH	302	506	Co	TX	102.3	7.08x2.79x½	TL●
	F-5 C.O.E.																														
17	Cab...1HOW-81	1605	110	110	14000	4346	6.50/20-6	7.50/20-8	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	60.06	7x2¾ x.21●	TL
18	Cab...1ROW-81	1635	110	110	14000	4386	6.50/20-6	7.50/20-8	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	60.06	7x2¾ x.21●	TL
19	Cab....1HW-81	1635	134	134	14000	4476	6.50/20-6	7.50/20-8	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
20	Cab....1RW-81	1665	134	134	14000	4516	6.50/20-6	7.50/20-8	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
21	Cab...1H8W-81	1665	158	158	14000	4546	6.50/20-6	7.50/20-8	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	108.1	7.08x2.8x¼●	TL
22	Cab...1R8W-81	1695	158	158	14000	4586	6.50/20-6	7.50/20-8	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RW	O4IH	302	506	Co	TX	108.1	7.08x2.8x¼●	TL
	F-5 School Bus																														
23	Bus Cl..1H8T-84	1315	158	158	12000	3755	6.50/20-6	7.00/20-8	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RTH	O4IH	302	506	Co	TX	128●	7x2¾x.21●	TL
24	Bus Cl..1R8T-84	1345	158	158	12000	3795	6.50/20-6	7.00/20-8	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RTH	O4IH	302	506	Co	TX	128●	7x2¾x.21●	TL
	F-6 School Bus																														
25	Bus Cl..1H4T-84	1530	194	194	15000	4260	7.50/20-8	8.25/20-10	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8T	SF	H	5.14-6.67	Own 7RTH	O4IHV	302	506	Co	TX	164●	7.08x2.8x¼●	TL
26	Bus Cl..1R4T-84	1560	194	194	15000	4300	7.50/20-8	8.25/20-10	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8T	SF	H	5.14-5.67	Own 7RTH	O4IHV	302	506	Co	TX	164†	7.08x2.8x¼●	TL
	F-6																														
27	Cowl..1HTH-84	1610	134	134	16000	3980	7.50/20-8	8.25/20-10	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	60.06	7.08x2.8x¼●	TL
28	Cowl..1RTH-84	1640	134	134	16000	4020	7.50/20-8	8.25/20-10	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	60.06	7.08x2.8x¼●	TL
29	Cowl..1MTH-84	1665	134	134	16000	4165	7.50/20-8	8.25/20-10	Own 8MTH	6-3.5x4.4	254	6.8	212	110-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	60.06	7.08x2.8x¼●	TL
30	Cowl..1H8TH-84	1640	158	158	16000	4050	7.50/20-8	8.25/20-10	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
31	Cowl..1R8TH-84	1670	158	158	16000	4090	7.50/20-8	8.25/20-10	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
32	Cowl.1M8TH-84	1707	158	158	16000	4235	7.50/20-8	8.25/20-10	Own 8MTH	6-3.5x4.4	254	6.8	212	110-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
33	Cowl.1H6TH-84	1623	176	176	16000	4130	7.50/20-8	8.25/20-10	Own 7HT	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	102.3	7.08x2.8x¼●	TL
34	Cowl.1R6TH-84	1655	176	176	16000	4170	7.50/20-8	8.25/20-10	Own 8RT	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	102.3	7.08x2.8x¼●	TL
35	Cowl.1M6TH-84	1748	176	176	16000	4315	7.50/20-8	8.25/20-10	Own 8MTH	6-3.5x4.4	254	6.8	212	110-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RTH	O4IHV	302	506	Co	TX	102.3	7.08x2.8x¼●	TL
	F-6 C.O.E.																														
36	Cab.1HOWH-81	1990	110	110	16000	4549	7.50/20-8	8.25/20-10	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	60.06	7x2¾x.21●	TL
37	Cab.1ROWH-81	2020	110	110	16000	4589	7.50/20-8	8.25/20-10	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	60.06	7x2¾x.21●	TL
38	Cab.1MOWH-81	2059	110	110	16000	4574	7.50/20-8	8.25/20-10	Own 8MWH	6-3.5x4.4	254	6.8	210	106-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	60.06	7x2¾x.21●	TL
39	Cab...1HWH-81	2020	134	134	16000	4679	7.50/20-8	8.25/20-10	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
40	Cab...1RWH-81	2050	134	134	16000	4719	7.50/20-8	8.25/20-10	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
41	Cab..1MWH-81	2091	134	134	16000	4704	7.50/20-8	8.25/20-10	Own 8MWH	6-3.5x4.4	254	6.8	210	106-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	84.06	7.08x2.8x¼●	TL
42	Cab..1H8WH-81	2050	158	158	16000	4749	7.50/20-8	8.25/20-10	Own 8HW	6-3.3x4.4	226	6.8	180	95-3300	4	2.87x5.0	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	108.1	7.08x2.8x¼●	TL
43	Cab..1R8WH-81	2080	158	158	16000	4789	7.50/20-8	8.25/20-10	Own 8RW	8-3⅛x3¾	239	6.8	180	100-3800	3	2.49x5.2	N	Own 41T	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	108.1	7.08x2.8x¼●	TL
44	Cab .1M8WH-81	2122	158	158	16000	4774	7.50/20-8	8.25/20-10	Own 8MWH	6-3.5x4.4	254	6.8	210	106-3400	4	2.87x5.0	Y	Own 8MTH	4	Own 8TH	Hy	H	6.2 -7.2	Own 7RW	O4IHV	302	506	Co	TX	108.1	7.08x2.8x¼●	TL
	F-7																														
45	Cowl... 1EQ-84	2685	135	135	19000	5478	8.25/20-10	9.00/20-10	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQ	5	Own 8Q	Hy	H	** -6.8	Own 7EQ	O4IHV	444	697	Co	TX	61.06	9x3x.25†	TL
46	Cowl... 1E7Q-84	2861	147	147	19000	5528	8.25/20-10	9.00/20-10	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQ	5	Own 8Q	Hy	H	** -6.8	Own 7EQ	O4IHV	444	697	Co	TX	73.06	9x3x.25†	TL
47	Cowl... 1E9Q-84	2735	159	159	19000	5648	8.25/20-10	9.00/20-10	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQ	5	Own 8Q	Hy	H	** -6.8	Own 7EQ	O4IHV	444	697	Co	TX	85.06	9x3x.25†	TL
48	Cowl... 1E8Q-84	2913	178	178	19000	5748	8.25/20-10	9.00/20-10	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQ	5	Own 8Q	Hy	H	** -6.8	Own 7EQ	O4IHV	444	697	Co	TX	104.1	9x3x.25†	TL
49	Cowl... 1E5Q-84	2785	195	195	19000	5808	8.25/20-10	9.00/20-10	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQ	5	Own 8Q	Hy	H	** -6.8	Own 7EQ	O4IHV	444	697	Co	TX	121.1	9x3x.25†	TL
	F-8																														
50	Cowl...1EQH-84	3155	135	135	22000	5934	9.00/20-10	10.0/20-12	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQH	5	Own 8QH	SF	H	** -7.17	Own 7EQ	O4IHV■	485	729	C	TX	61.06	9x3x.25†	TL
51	Cowl..1E7QH-84	3352	147	147	22000	5984	9.00/20-10	10.0/20-12	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQH	5	Own 8QH	SF	H	** -7.17	Own 7EQ	O4IHV■	485	729	C	TX	73.06	9x3x.25†	TL
52	Cowl..1E9QH-84	3205	159	159	22000	6224	9.00/20-10	10.0/20-12	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQH	5	Own 8QH	SF	H	** -7.17	Own 7EQ	O4IHV■	485	729	C	TX	85.06	9x3x.25†	TL
53	Cowl..1E8QH-84	3404	178	178	22000	6124	9.00/20-10	10.0/20-12	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQH	5	Own 8QH	SF	H	** -7.17	Own 7EQ	O4IHV■	485	729	C	TX	104.1	9x3x.25†	TL
54	Cowl..1E5QH-84	3255	195	195	22000	6284	9.00/20-10	10.0/20-12	Own 8EQ	8-3½x4½	337	6.4	255	145-3600	3	2.87x5.2	Y	Own 7EQH	5	Own 8QH	SF	H	** -7.17	Own 7EQ	O4IHV■	485	729	C	TX	121.1	9x3x.25†	TL
	Freightliner																														
55	(c.o.e.).....B-42	.....	112	174	34000	▲11200	10.00/22	.....	Cum HRB	6-5½x6	743	13½	540	165-1800	7	4½x16½	Y	Fu 4A86	8	Eat 22501	8Fd	H	4.33-6.67	Tim 27061	O4IA	645	1050	a	TD	72	10¾x3½x¼	DL
56	Kenworth(D)..521	.....	165	255	28000	12000	10.00/20	11.00/22	Cum HB6	6-4½x6	672	17.	500	150-1800	7	4½x16⅛	Y	BL 8241	4	Tim U200P	H2F	H	5.91-9.76	TimFe900DPA	Ws4IA	722	1174	a	TD	74	9¼x3¼x⅛	C
57	585	.....	165	255	28000	9600	10.00/20	11.00/22	Wau 140GZ	6-4½x5½	554	6.4	450	188-2600	7	3x13⅜	Y	Fu 5C650	5	Tim R100P	HF	H	5.29-7.40	TimFe900DPA	Ws4IA	648	1168	a	TD	64	9¼x3¼x⅛	C
58	Linn.....A-15	.....	120	....	9000	6000	7.50/20S	8.25/20S	Her JXE3	6-3½x4¼	245	6.5	184	91-3200	7	2½x10⅜	Y	WGT9	4	Own 601	N	N	None	Tim F30B28H	L4IH	306	478	a	T	.....	None	....
59	.....A-25	.....	156	....	11200	6200	7.50/20S	8.25/20	Her JXE3	6-3½x4¼	245	6.5	184	91-3200	7	2½x10⅜	Y	WGT9	4	Own 601	N	N	None	Tim F30B28H	L4IH	306	478	a	X	.....	None	....
60	.....A-35	.....	169	....	14700	7900	7.50/20D	8.25/20	Her JXC	6-3¾x4¼	282	6.7	207	103-3200	7	2½x10⅜	Y	WGT9	4	Own 602T	N	N	None	Tim F35	L6IH	486	744	a	X	.....	None	....
61	.....A-45	.....	205	....	16900	8100	7.50/20D	8.25/20	Her JXC	6-3¾x4¼	282	6.7	207	103-3200	7	2½x10⅜	Y	WGT9	4	Own 602T	N	N	None	Tim F35	L6IH	486	744	a	X	.....	None	....

▲—Includes cab. ▼—Cowl to axle.
■—Air brake equipment optional on F-8. Front 16x2¼. Rear 16½x5¼.

●—Reinforcement 6.58x2.21x.125 extended to include front spring rear brackets and rear spring front bracket.
†—Reinforcement 8.5x2.56x.15 starts at rear of front spring rear brackets and ends behind rear spring front brackets.

(Turn to Page 154, Please)

STUDEBAKER TRUCKS PAY OFF IN THRIFT!

Designed for top gas mileage! Seldom need costly repairs!

More-for-your-money features!

Big visibility cab with plenty of head room and leg room for comfort . . . Fully enclosed safety steps . . . Adjustable seat with "finger-tip" control . . . Adjusto-Air seat cushion . . . Two foot-controlled floor ventilators . . . Two built-in window wings . . . Dual windshield wipers . . . Two arm rests and sun visors . . . Cab light with hand and automatic door switches . . . Rheostat controlled instrument lights . . . Automatic "hold-open" door stops . . . Tight-gripping rotary door latches . . . Metal-lined door panels . . . Metal dash compartment . . . Automatic spark control and gasoline knock eliminator . . . Extra strong K-member front frame reinforcement . . . Full box-section cross members . . . Rugged, easy-riding springs . . . Shock-proof cross link steering with variable-ratio that builds up extra leverage for easier turn-arounds and parking . . . "Lift-the-hood" accessibility puts the engine, ignition and instrument panel wiring within easy arm's reach . . . Two great Studebaker-built truck engines—the Econ-o-miser—the high torque Power-Plus.

Marvelous trucks for drivers!

There's an actual 1752 square inches of glass area in the Studebaker truck cab. Doors and windows are exceptionally weather-tight. A handy tool compartment is located at each end of the seat.

STUDEBAKER TRUCKS... NOTED FOR LOW COST OPERATION!

Decorative and other specifications subject to change without notice.

The Studebaker Corporation, South Bend 27, Indiana, U. S. A.

(Continued from Page 152)

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	WHEEL-BASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	Forward Speeds	REAR AXLE: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	Type
1	Mar. Her...DVL-4	.....	90	118	‡6750	.....	7.50/16S	8.25/18S	Willys MB	4–3⅛x4½	134	6.4	105	60–4000	3–2.33x5.48	Y	Own	3	(Front Drive)	.....	.....	7.10	Own	4IH	202	327	M2	.....	.....	None	....
2	Peterbilt(D)...280	.....	175	Opt	35000	12500	10.00/20D	11.00/22	Cum HB600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Spi 8041	12	U-200P	2F	R	** –6.51	TimFe900DPA	Ws4IA	738	1052	...	TD	86½	10½x3¼x⅜	CT
3	Reo.....F-20A	.....	125	125	16000	4785	7.50/20	8.25/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG-T97	4	Tim E100♦	HF	H	5.28x6.8	Tim 30000	LT4IVH	340	482	var	TX	60½	8½x2½x⅛	T
4	.....F-20T	.....	125	125	16000	5215	8.25/20	8.25/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E300	Hfd	H	6.13–8.10	Tim 30000	LT4IVH	340	482	var	TX	60½	8½x2½x⅛	T
5	.....F-20B	.....	150	150	16000	4925	7.50/20	8.25/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 30000	LT4IVH	340	482	var	TX	85½	8½x2½x⅛	T
6	.....F-20C	.....	170	170	16000	5060	7.50/20	8.25/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 30000	LT4IVH	340	482	var	TX	105½	8½x2½x⅛	Tf
7	.....F-20L	.....	185	185	16000	5185	7.50/20	8.25/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 30000	LT4IVH	340	482	var	TX	120½	9x3x¼	Tf
8	.....F-21A	.....	130	130	18000	5110	8.25/20	9.00/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 31104	LT4IVH	344	526	var	TX	65½	9x3x¼	T
9	.....F21T	.....	130	130	18000	5535	8.25/20	9.00/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E300	HFd	H	6.13–8.10	Tim 31104	LT4IVH	344	526	var	TX	65½	9x3x¼	T
10	.....F-21B	.....	150	150	18000	5325	8.25/20	9.00/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 31104	LT4IVH	344	526	var	TX	85½	9x3x¼	T
11	.....F-21C	.....	170	170	18000	5460	8.25/20	9.00/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 31104	LT4IVH	344	526	var	TX	105½	9x3x¼	Tf
12	.....F-21L	.....	185	185	18000	5555	8.25/20	9.00/20	Own 255	6–3½x4½	255	6.7	189	107–3400	7–2½x9.408	Y	WG T97	4	Tim E100♦	HF	H	5.28–6.8	Tim 31104	LT4IVH	344	526	var	TX	120½	9x3x¼	Tf
13	.....F-22A	.....	130	130	20000	5840	9.00/20	10.00/20	Own 292♦	6–3½x4½	292	6.5	224	124–3300	7–2½x9.408	Y	Cla 205V	5	Tim H100^	HF	H	6.16–6.8	Tim 31104	LT4IVH	370	640	var	TX	65½	9x3x¼	T
14	.....F-22T	.....	130	130	20000	6415	9.00/20	10.00/20	Own 292♦	6–3½x4½	292	6.5	224	124–3300	7–2½x9.408	Y	Cla 205V	5	Tim H300^	Hfd	H	6.67–8.85	Tim 31104	LT4IVH	370	640	var	TX	65½	9x3x¼	T
15	.....F-22B	.....	150	150	20000	6005	9.00/20	10.00/20	Own 292♦	6–3½x4½	292	6.5	224	124–3300	7–2½x9.408	Y	Cla 205V	5	Tim H100^	HF	H	6.16–6.8	Tim 31104	LT4IVH	370	640	var	TX	85½	9x3x¼	T
16	.....F-22C	.....	170	170	20000	6140	9.00/20	10.00/20	Own 292♦	6–3½x4½	292	6.5	224	124–3300	7–2½x9.408	Y	Cla 205V	5	Tim H100^	HF	H	6.16–6.8	Tim 31104	LT4IVH	370	640	var	TX	105½	9x3x¼	Tf
17	.....F-22L	.....	185	185	20000	6275	9.00/20	10.00/20	Own 292♦	6–3⅞x4½	292	6.5	224	124–3300	7–2½x9.408	Y	Cla 205V	5	Tim H100^	HF	H	6.16–6.8	Tim 31104	LT4IVH	370	640	var	TX	120½	9½x3⅛x⅜	Tf
18	.....F-22RA	.....	130	130	22000	6420	10.00/20	10.00/22	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim L100^	HF	H	6.16–7.4	Tim 32500	LT4IVH	422	644	var	TX	65½	9x3x¼	T
19	.....F-22RT	.....	130	130	22000	6880	10.00/20	10.00/22	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim L300^	HFd	H	6.36–8.28	Tim 32500	LT4IVH	422	644	var	TX	65½	9x3x¼	T
20	.....F-22RB	.....	150	150	22000	6565	10.00/20	10.00/22	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim L100^	HF	H	6.16–7.4	Tim 32500	LT4IVH	422	644	var	TX	85½	9x3x¼	T
21	.....F-22RC	.....	170	170	22000	6680	10.00/20	10.00/22	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim L100^	HF	H	6.16–7.4	Tim 32500	LT4IVH	422	644	var	TX	105½	9x3x¼	Tf
22	.....F-22RL	.....	185	185	22000	6805	10.00/20	10.00/22	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim L100^	HF	H	6.16–7.4	Tim 32500	LT4IVH	422	644	var	TX	120½	9½x3⅛x⅜	Tf
23	.....F-22SA	.....	130	130	24000	7305	10.00/20	11.00/20	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	65½	9½x3⅛x⅜	T
24	.....F-22ST	.....	130	130	24000	7765	10.00/20	11.00/20	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim Q300^	HFd	H	6.42–8.38	Tim FD900	TWs4IA	620	928	var	TX	65½	9½x3⅛x⅜	T
25	.....F-22SB	.....	150	150	24000	7485	10.00/20	11.00/20	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	85½	9½x3⅛x⅜	T
26	.....F-22SC	.....	170	170	24000	7670	10.00/20	11.00/20	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2½x9.408	Y	Cla 205V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	105½	9½x3⅛x⅜	Tf
27	.....F-22SL	.....	185	185	24000	7825	10.00/20	11.00/20	Own 331	6–4½x4½	331	6.4	264	140–3200	7–2x9.408	Y	Cla 205V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	120½	9½x3⅛x⅜	Tf
28	.....F-23A	.....	130	130	26000	7695	10.00/20	11.00/22	Con T6427	6–4⅞x4½	427	6.4	343	151–2800	7–2½x12.1	Y	Cla 290V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	65½	9½x3⅛x⅜	T
29	.....F-23T	.....	130	130	26000	8155	10.00/20	11.00/22	Con T6427	6–4⅞x4½	427	6.4	343	151–2800	7–2½x12.1	Y	Cla 290V	5	Tim Q300^	HF	H	6.42–8.38	Tim FD900	TWs4IA	620	928	var	TX	65½	9½x3⅛x⅜	T
30	.....F-23B	.....	150	150	26000	7865	10.00/20	11.00/22	Con T6427	6–4⅞x4½	427	6.4	343	151–2800	7–2½x12.1	Y	Cla 290V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	85½	9½x3⅛x⅜	T
31	.....F-23C	.....	170	170	26000	8035	10.00/20	11.00/22	Con T6427	6–4⅞x4½	427	6.4	343	151–2800	7–2½x12.1	Y	Cla 290V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	105½	9½x3⅛x⅜	Tf
32	.....F-23L	.....	185	185	26000	8195	10.00/20	11.00/22	Con T6427	6–4⅞x4½	427	6.4	343	151–2800	7–2½x12.1	Y	Cla 290V	5	Tim Q100^	HF	H	6.16–6.83	Tim FD900	TWs4IA	620	928	var	TX	120½	9½x3⅛x⅜	Tf
33	Sterling.....HD97	.....	148	175	24000	9150	9.00/20	11.00/20	Wau 6MZA	6–4¼x4¾	404	5.6	290	130–3000	7–2⅛x12½	Y	Fu 5A43	5	Tim Q100DPB	FHy	R	5.29–7.80	Tim 35011H	T4IHV	524	926	A	TX	67	9x7x¼	A
34	.....HD105	.....	148	175	24000	9550	10.00/20	11.00/22	Wau 6MZA	6–4¼x4¾	404	5.6	290	130–3000	7–2⅛x12½	Y	Fu 5A43	5	Tim R100DPB	FHy	R	5.29–7.40	Tim 35011H	T4IHV	524	926	A	TX	67	9x3¼x2¼	A
35	.....HD115	.....	148	175	32000	10650	10.00/20	11.00/24	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3x13⅞	Y	Fu 5A62	5	Tim 8200P	2F	R	6.42–9.83	Tim 36000TW	Ws4IA	722	1054	A	TX	67	9x3¼x2¼	A
36	.....HD145	.....	148	175	36000	11250	11.00/20	12.00/24	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3x13⅞	Y	Fu 5A62	5	Tim 7972IW	2F	R	7.69–11.36	Tim 36000TW	Ws4IA	670	1118	A	TX	67	9¼x3½x3½	A
37	(D).....HD115H	.....	158	185	32000	11950	10.00/20	11.00/24	Cum HB600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Fu 4B86◀	5	Tim 8200P	2F	R	6.42–9.83	Tim 36000TW	Ws4IA	722	1054	A	TX	68	9x3¼x2¼	A
38	(D).....HD145H	.....	158	185	36000	12550	11.00/20	12.00/24	Cum HB600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Fu 4B86	5	Tim 7972IW	2F	R	7.69–11.36	Tim 36000TW	Ws4IA	670	1118	A	TX	68	9¼x3¼x3½	A
39	.....HC97	.....	148	175	24000	9200	9.00/20	11.00/20	Wau 6MZA	6–4¼x4¾	404	5.6	290	130–3000	7–2⅛x12½	Y	Fu 5A43	5	Own 97H	CD	R	6.70–10.82	Tim 35011H	T4IHV	518	852	A	TX	67	9x3¼x2¼	A
40	.....HC105	.....	148	175	28000	9700	10.00/20	11.00/22	Wau 6MZA	6–4¼x4¾	404	5.6	290	130–3000	7–2⅛x12½	Y	Fu 5A43‖	15	Own 137H	CD	R	6.70–10.82	Tim 35011H	TL4IHV	540	842	A	TX	67	9x3¼x2¼	A
41	.....HC115	.....	148	175	32000	10350	10.00/20	11.00/24	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3x13⅞	Y	Fu 5A62‖	15	Own 137W	CD	R	6.70–10.82	Tim 36000TW	Ws4IA	648	1064	A	TX	67	9x3¼x2¼	A
42	.....HC144	.....	148	175	36000	11250	10.00/22	12.00/24	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3x13⅞	Y	Fu 5A62‖	15	Own 148W	CD	R	6.70–10.82	Tim 36000TW	Ws4IA	708	1102	A	TX	67	9¼x3½x2½	A
43	.....HC147	.....	148	175	36000	11500	10.00/22	12.00/24	Wau 6SRKR	6–4⅝x5½	517	5.5	368	125–2250	7–3x13⅞	Y	Fu 5A62‖	15	Own 147W	CD	R	6.70–10.82	Tim 36000TW	Ws4IA	708	1102	A	TX	67	9¼x3½x2½	A
44	.....HC175	.....	167	185	45000	14600	12.00/24†	14.00/24‡	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y	Fu 4B86●	12	Own 175W	CD	R	7.31–12.42	Tim 27454W	Ws4IA	786	1212	A	TX	77	9¼x3½x2½	A
45	.....HC250	.....	178	190	60000	18400	14.00/24‡	14.00/24‡	Wau 145GK	6–5¼x6	779	6.2	585	186–2100	7–3½x17¾	Y	Fu 4B86●	12	Own 251W	CD	R	7.31–12.42	Tim 27454W	Ws4IA	786	1212	A	JX	95	12x3½x⅜	AL
46	(D).....HC115H	.....	167	185	32000	12250	10.00/20	11.00/24	Cum HB600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Fu 4B86●	12	Own 137W	CD	R	6.70–10.82	Tim 36000TW	Ws4IA	648	1064	A	TX	77	9x3¼x2¼	A
47	(D).....HC175H	.....	167	185	45000	14930	12.00/24†	14.00/24‡	Cum HBD600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Fu 4B86●	12	Own 175W	CD	R	7.31–12.42	Tim 27454W	Ws4IA	786	1212	A	TX	77	9¼x3½x2½	A
48	(D).....HC250H	.....	178	190	60000	18700	14.00/24‡	14.00/24‡	Cum HBD600	6–4½x6	672	17.	500	150–1800	7–4½x16½	Y	Fu 4B86●	12	Own 251W	CD	R	7.31–12.42	Tim 27454W	Ws4IA	786	1212	A	JX	95	12x3½x⅜	AL
49	Studebaker.....2R5	1112	112	112	4600	2125	6.00/16S	6.50/16S	Own 1R	6–3x4	170	7.0	138	85–4000	4–2⅛x5⅛	N	Own 673519	3	Own 680233	Hy	H	4.89–4.09	Tim 678860	Wg4IH	170	276	CO	2I	40	7x2¼x1¼	T
50	.....2R6	1162	112	112	4600	2365	6.00/16S	6.50/16S	Own 6R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 679807	3	Own 680233	Hy	H	4.09–4.89	Tim 678860	Wg4IH	170	276	CO	2I	40	7x2¼x1¼	T
51	.....2R10	1188	122	122	6100	2400	6.50/16S	7.50/16S	Own 1R	6–3x4	170	7.0	138	85–4000	4–2⅛x5⅛	SF	Own 673519	3	Own 679819	SF	H	5.57–4.86	Tim 678860	Wg4IH	198	314	CO	2I	50	7⅛x2⅛x1⅛	T
52	.....2R11	1238	122	122	6100	2640	6.50/16S	7.50/16S	Own 6R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 679146	3	Own 679818	SF	H	** 4.86	Tim 678860	Wg4IH	198	314	CO	2I	50	7⅛x2⅛x1⅛	T
53	.....2R14-21	1406	121	121	7800	3245	7.00/17S	7.00/20	Own 6R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 680438	4	Own 680404	SF	H	5.83–6.66	Own 677091	Wg4IH	226	342	Ce	TX	50½	8x2½x⅛	T
54	.....2R15-21	1356	121	121	7800	3005	7.00/17S	7.00/20	Own 2R	6–3x4	170	7.0	138	85–4000	4–2⅛x5⅛	N	Own 680437	4	Own 680404	SF	H	5.83–6.66	Own 677091	Wg4IH	226	342	Ce	TX	50½	8x2½x⅛	T
55	.....2R15-31	1375	131	131	10000	3065	7.00/17S	7.00/20	Own 2R	6–3x4	170	7.0	138	85–4000	4–2⅛x5⅛	N	Own 680437	4	Own 680404	SF	H	5.83–6.66	Own 677091	Wg4IH	226	342	Ce	TX	60¼	8⅛x2¼x⅛	T
56	.....2R16A	1456	131	195	14000	3695	6.50/20D	8.25/20	Own 4R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 680438	4	Own 680399●	SF	H	6.66–5.83	Own 674484	Wg4IH	294	442	Ce	TX	60¼	8½x2½x⅛	T
57	.....2R16B	1467	131	195	15000	3695	6.50/20D	8.25/20	Own 4R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 680438	4	Own 680399●	SF	H	6.66–5.83	Own 674484	Wg4IH	294	442	Ce	TX	60¼	8½x2½x⅛	T
58	.....2R17A	1772	131	195	16000	4180	7.50/20D	9.00/20	Own 4R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 680439	4	Own 680405♦♦	Hy	H	6.80–6.20	Own 674484	Wg4IH	367	553	Ce	TX	60¼	8½x2½x⅛	P
59	.....2R17B	1783	131	195	17000	4180	7.50/20D	9.00/20	Own 4R	6–3⅛x4¾	245	7.0	205	102–3200	4–2⅛x5	N	Own 680439	4	Own 680405♦♦	Hy	H	6.80–6.20	Own 674484	Wg4IH	367	553	Ce	TX	60¼	8½x2½x⅛	P
60	Ward La Fr...D-1	.....	149	220	25000	▲ 9500	10.00/20	11.00/20	Con T6427	6–4⅞x4½	427	5.1	340	152–2600	7–2⅛x13½	Y	Ful 5A430	5	Tim Q-100	B	R	**–6.83	Tim 35017TW	Ws4A	600	928	C	TM	68¼	9¼x3x¼	T
61	.....D-1C	.....	149	220	29000	▲ 9500	11.00/20	11.00/22	Con T6427	6–4⅞x4½	427	5.1	340	152–2600	7–2⅛x13½	Y	Ful 5A430	5	Tim S-200	S2	R	**–7.08	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	9¼x3x¼	T
62	.....D-2K	.....	149	220	29000	▲10000	11.00/20	11.00/22	Wau 140GK	6–4½x5½	525	6.4	425	168–2400	7–2¾x13⅜	Y	Ful 5A620	5	Tim S-200	S2	R	**–7.84	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	10x3½x⅜	T
63	.....D-2Z	.....	149	220	29000	▲10000	11.00/20	11.00/20	Wau 140GZ	6–4⅝x5½	554	6.4	456	184–2400	7–3¼x13¼	Y	Ful 5C650	5	Tim S-200	S2	R	**–7.84	Tim 35017TW	Ws4A	673	1031	C	TM	68¼	10x3½x⅜	T
64	.....D-3	.....	149	220	29000	▲10000	11.00/20	11.00/22	Con R6572	6–4¼x5½	572	5.9	440	189–2600	7–3¼x14½	Y	Ful 5C650	5	Tim S-200	S2	R	**–7.84	Tim 35017TW	Ws4B	673	1031	C	TM	68¼	10x3½x⅜	T
65	.....D-3B	.....	149	220	29000	▲10000	11.00/20	11.00/22	Con R6602	6–4¼x5½	602	5.9	463	198–2600	7–3¼x14½	Y	Ful 5C650	5	Tim S-200	S2	R	**–7.84	Tim 35017TW	Ws4B	673	1031	C	TM	68¼	10x3½x⅜	T
66	(D).....D-5	.....	149	220	35000	▲12500	11.00/22	11.00/22	Cum HB600	6–4½x6	672	17	500	150–1800	7–4½x16¾	Y	Ful 5C650	5	Tim U-200	S2	R	**–6.42	Tim 27463	Ws4B	681	1041	C	TM	68¼	10x3½x⅜	T
67	Willys 8d. Dv..473	1295	104	104	4000	*2620	6.50/15S	.....	Own 473	4–3⅛x4½	134	7.4	114	72–4000	3–2.33x5.48	N	WG T96	3	Spi 23–1	Hy‖	H	** –4.88	Own I Tr	B4IH	133	220	a	2I	.....	5x2¼x.063	TfD
68	Willys.....HT	*1220	118	118	4250	*2722	6.00/16S	6.50/16S	Own 473	4–3⅛x4½	134	7.4	114	72–4000	3–2.33x5.48	N	WG T96	3	Spi 41	Hy‖	H	** –5.38	Cla F-154	B4IH	176	276	a	2I	42.28	5½x2x⅛	TD

(Turn to Page 156, Please)

▲ Includes Cab.
♦—Two speed axle available.
‖ Auxiliary Transmission Own OJ.

‡ Rear only; Front 12.00/24.
Auxiliary transmission Own FJ.
♦♦—Two speed 6.13–8.10 optional

♦ Model 331 engine can be furnished.
2—8200 for 8.25/18 tires.
♦—Two speed 6.13–8.10 and H.D. 6.20 or 6.80 optional.

—Double reduction and 2-speed available.
† Rear only; Front 11.00/24.
•—Complete vehicle with pick-up type body.

Help yourself to the WELDING SUPPLIES you need from the MARQUETTE

REGISTERED U.S. PAT. OFFICE

You'll find these and other top-quality rods in the Marquette ROD BAR.

No. 130 RED-ROD . . . For all-purpose arc welding. Easy operation in all positions.

No. 85 HY-TEST-ROD . . . For all-position welding of high tensile steels. Affords extra margin of safety.

No. 44 NICOL-ROD . . . Welds cast iron and malleable iron without preheating. Results machineable.

No. 450 and No. 550 HARD-ROD . . For hard surfacing alloy steel. Weld metal is tough, resistant.

No. 650 TOOL-ROD . . . Produces an alloy steel with the toughness and hardness of high-speed steel.

GAS WELDING RODS: No. 2 COPPER-COTE STEEL-ROD . . . A low-carbon steel designed to produce strong, ductile welds.

No. 5 CAST IRON-ROD . . . A high grade gray cast iron produces soft machineable welds on all cast iron parts. **No. 30 MANGANESE BRONZ-ROD** . . . Low fuming, tins easily, produces sound bronze welds on cast iron, malleable castings, steel, and cast steel. **No. 32 FLUX - COATED MANGANESE BRONZ-ROD** . . . Same as above. but self-fluxing. No wasted time in flux dipping.

Depend also on Marquette's complete line of welding rods for low temperature welding, silver soldering, and aluminum brazing.

ROD BAR

AT YOUR JOBBER'S

Whether you need arc-welding electrodes, gas rods, fluxes, silver solder—ANY welding supply—you'll find what you want in your jobber's Marquette ROD BAR. Here's one-stop convenience for you—quick availability; a complete assortment of supplies for every type of welding job; and everything's in full view, easy to identify. Look for the Marquette ROD BAR at your jobber's. Marquette Manufacturing Co. Inc., 307 E. Hennepin Avenue, Minneapolis 14, Minnesota.

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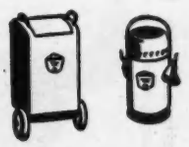
A. C. WELDERS AND ACCESSORIES

ACETYLENE GENERATORS

WELDING ELECTRODES AND RODS

OXY-ACETYLENE WELDING AND CUTTING OUTFITS

TOW CRANES



BATTERY CHARGERS

(Continued from Page 154)

Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES D-dual rear S-single rear: Standard Front and Rear	TIRE SIZES: Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number Diameter and Length	Governor Standard	TRANSMISSION: Make and Model	TRANSMISSION: Forward Speeds	REAR AXLE: Make and Model	REAR AXLE: Gear and Type	REAR AXLE: Drive & Torque	REAR AXLE: Gear Ratio Range in High	FRONT AXLE: Make and Model	BRAKES SERVICE: Make Location Type Operation	BRAKES SERVICE: Lining Area	BRAKES SERVICE: Drum Area	BRAKES SERVICE: Drum Material	BRAKES: Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME: Side Rail Dimensions	FRAME: Type
	Four-Wheel-Drive																														
1	Coleman G-55		136	150	30000	11750	11.00/20	12.00/20	Buda LO-525	6-4½x5½	525	6.7	400	150–2200	7-3x7¼	Y	Fu 5A650	5	OW-C375FXa		9.66	OW	TW	IA	598	9214		FD	96	9x3x⅝	C
2	Corbitt G101F20		Opt		20000		8.25/20	9.00/20	Con M6330	6-4x4½	330	6.1	248	104–2800	7-2½x12	Y	Cla 205VO	5	Tim H100	HF	H ** –6.8	Tim F35	LT	4IHV	420	654	a	TX	Opt	8x3¼x¼	T
3	G301F24		Opt		24000		9.00/20	10.00/20	Con B6371	6-4½x5½	371	6.0	280	100–2600	7-2½x13½	Y	Fu 5A43	5	Tim R2090	2F	H ** –8.43	Tim F2090	LT	4IHV	520	788	a	TD	Opt	9x2¾x¾	T
4	G601F31		Opt		32000		10.00/20	11.00/24	Con R6513	6-4½x5⅝	513	5.9	400	170–2600	7-3¼x14½	Y	Fu 5A620	5	Tim 1357	2F	H 6.65–7.33	Tim F3110	Ws	4IA	644	984	a	TD	Opt	10½x3¼x¼	TL
5	(T)(D) D808U32		Opt		32000		10.00/20	11.00/24	Cum HRBB600	6-5½x6	743	17.	540	175–2000	7-4½x16½	Y	Fu 5C720	5	Tim 1758	2F	H ** –7.33	Tim F3100	Ws	4IA	644	984	a	TD	Opt	10½x3¼x¼	TL
6	Dodge B-3-PW		126	126	9500		7.50/16S	9.00/16S	Own T-137	6-3¼x4½	230	6.7	186	94–3200	4-2½x4.8	Y	NP-88790	4	Own T-137	HyF	H 4.89–5.8	Own T-137	O4	IH	210	244	Co	TX†	52½	⅜x2⅞x6⅞	C
7	FWD LD		124	184		▲5500	6.50/20D	9.00/20	HerCB-QXLD3	6-3⅞x4¼	236	6.7	190	97–3200	7-2½x10⅞	Y	WG T9A	8	Tim F30	8F	H ** –6.67	Tim 53547	T4	IHV	324	518	a	T4	60	8x3x⅜	T
8	HA		132	168		▲7545	8.25/20D	10.00/20	Wau 195GKA	6-4¼x4	320	6.2	245	125–3200	4-2¾x7½	Y	Own HA	5	Own HA	8F	H 6.6 –9.01	Own HA	Wg	4IHV	419	706	a	T4	79½	9x3x¼	T
9	HAY		132	168		▲7945	9.00/20D	10.00/20	Wau 195GKA	6-4¼x4	320	6.2	245	125–3200	4-2¾x7½	Y	Own HAY	5	Own HAY	8F	H 6.6 –9.01	Own HAY	Wg	4IHV	504	775	a	T4	79½	9x3x¼	T
10	HR		132	168		▲8000	9.00/20	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	130–3000	7-2¾x12½	Y	Own HR	5	Own HR	8F	H 6.6 –9.01	Own HR	Wg	4IHV	419	706	a	T4	79½	9x3x¼	T
11	HG		154	154		▲8050	9.00/20	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	130–3000	7-2¾x12½	Y	Own HG	5	Own HG	8F	H 6.6 –9.01	Own HG	Wg	4IHV	419	706	a	T4	89¾	7⅞x8x⅜	C
12	HGY		154	154		▲8400	10.00/20D	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	130–3000	7-2¾x12½	Y	Own HGY	5	Own HGY	8F	H 6.9 –9.01	Own HRG	Wg	4IHV	504	775	a	T4	89¾	7⅞x8x⅜	C
13	HRC		139	163		▲8500	10.00/20D	11.00/20	Wau 140GKB	6-4½x5½	525	6.4	425	172–2600	7-3¾x13⅜	Y	Own HRC	10	Own HRC	8F	H 5.4 –9.0	Own HRC	Wg	4IHA	419	706	a	T4	74½	9x3x¼	T
14	HRY		144	168		▲8400	10.00/20D	11.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	130–3000	7-2¾x12½	Y	Own HRY	5	Own HRY	8F	H 6.6 –9.0	Own HRY	Wg	4IHV	504	775	a	T4	79½	9x3x¼	T
15	SU		150	182		▲10570	11.00/20D	12.00/20	Wau 8RKR	6-4⅝x5½	517	5.5	369	126–2250	7-3x13¼	Y	Own U	5	Own U	8F	H 6.7 –9.8	Own U	L4	IHV	512	985	a	T4	90	8⅛x8x⅜	C
16	YU		150	182		▲11570	11.00/20D	12.00/20	Wau 140GK	6-4½x5½	525	6.1	425	142–2250	7-3¼x13⅜	Y	Own YU	8	Own YU	8F	H 5.7–10.8	Own YU	Wg	4IHV	539	804	a	T4	90	8⅛x8x⅜	C
17	ZU		150	182		▲12540	11.00/20D	12.00/20	Wau 140GZ	6-4⅝x5⅜	554	6.4	460	188–2600	7-3¼x13⅜	Y	Own 8	5	Own ZU	8F	H 6.6–11.4	Own ZU	Wg	4IHA	640	1106	a	T4	90	10⅛x8x⅜	C
18	M7G		150	180		▲15500	12.00/20D	12.00/24	Wau 145GK	6-5¼x6	779	6.2	590	186–2000	7-3½x17¾	Y	Own M	10	Tim 1758W	2F	H 5.9 –8.8	Wis F409W	WW	4IA	644	1090	a	T4	90	10⅛x8x⅜	C
19	(D) M7D		150	180		▲16100	12.00/20D	12.00/24	Bu DC844	6-5¼x6½	844	13.	605	180–1800	7-3¾x17	Y	Own M	10	Tim 1758W	2F	H 5.9 –8.8	Wis F409W	WW	4IA	644	1090	a	T4	90	10⅛x8x⅜	C
20	M10G		150	180		▲15800	11.00/24D	12.00/24	Wau 145GK	6-5¼x6	779	6.2	590	186–2000	7-3½x17¾	Y	Own M	10	T79721WX14	2F	H 6.7 –9.2	WisF408CWX1	WW	4IA	693	1144	a	T4	90	10⅛x8x⅜	C
21	(D) M10D		150	180		▲16400	11.00/24D	12.00/24	Bu DC844	6-5¼x6½	844	13.	605	180–1800	7-3¾x17	Y	Own M	10	T79721WX14	2F	H 6.7 –9.2	WisF408CWX1	WW	4IA	693	1144	a	T4	90	10⅛x8x⅜	C
	Marmon-Herr.																														
22	(C) R5-4		134	134	15500	▲5100	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –6.67	Own	F H		302	506	a	F	60⅛	7x2¾x⅞	T
23	(C) R6-4		158	158	15500	▲5331	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –6.67	Own	F H		302	506	a	F	84⅛	7x2¾x⅞	T
24	(C) LD7-4		114		5300	▲3500	15°	15°	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –4.27	Own	F H		178	259	A	F	40⅛	5½x2¾x⅛	T
25	(C) R3-4		122		6800	▲4100	7.50/17	7.50/17	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –4.86	Own	F H		188	308	A	F	48	6x2¼x⅛	T
26	(C) R4-4		134		10000	▲4900	7.00/20S	7.00/20	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –5.83	Own	F H		302	506	A	F	60⅛	7x2¾x⅞	T
27	(C) R5-A-COE4		110	158	15500	▲5360	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	8	H ** –6.67	Own	F H		302	506	A	F	60⅛	7.08x2.8x¼	T
28	(C) V5-4		134	176	17000	▲5294	7.50/20D	8.25/20	Ford	8-3⅛x3¾	239	6.4	180	100–3800	3-2½x4.71	N	Ford	4	Ford	H	H ** –6.80	Own	F H		302	506	A	F	60	7.08x2.79x⅛	T
29	(C) Q5-4		136		21500	▲7100	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145–3600	3-2½x5.21	Y	Ford	5	Ford	H	H ** –6.80	Own	F H		444	697	A	F	61	9x3x¼	T
30	(C) Q6-4		160		21500	▲7200	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145–3600	3-2½x5.21	Y	Ford	5	Ford	H	H ** –6.80	Own	F H		444	697	A	F	73	9x3x¼	T
31	(C) Q7-4		196		21500	▲7350	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145–3600	3-2½x5.21	Y	Ford	5	Ford	H	H ** –6.80	Own	F H		444	697	A	F	85	9x3x¼	T
32	(C) Q5-L4		148		21500	▲7150	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145–3600	3-2½x5.21	Y	Ford	5	Ford	H	H ** –6.80	Own	F H		444	697	A	F	104	8x3x¼	T
33	(C) Q6-L4		179		21500	▲7275	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145–3600	3-2½x5.21	Y	Ford	5	Ford	H	H ** –6.80	Own	F H		444	697	A	F	121	9x3x¼	T
34	MH610A		159	193	24000	▲9547	10.00/20D	11.00/20	Her WXLC3	6-4¼x4¾	404	6.5	312	139–2600	7-2½x13¼	Y	MH610	5	MH610A	HyF	H ** –6.80	MH610	4H	V	362	584	c	F	84	12¼x3x⅛	CTf
35	MH615A		159	193	26000	▲10158	10.00/20D	11.00/20	Her WXLC3	6-4¼x4¾	404	6.5	312	139–2600	7-2½x13¼	Y	MH615	5	MH615A	2S	H ** –8.43	MH615	BW	4A	459	766½	c	F	84	12¼x3x⅛	CTf
36	MH620A		159	193	28000	▲10615	10.00/20D	11.00/20	Her RXLC	6-4⅝x5½	529	6.0	408	146–2600	7-3½x13¼	Y	MH620	5	MH620A	2S	H ** –8.43	MH620	BW	4A	459	766½	c	F	84	12¼x3x⅛	CTf
37	MH625		159	193	30000	▲11511	11.00/20D	12.00/20	Her RXLC	6-4⅝x5½	529	6.0	408	146–2600	7-3½x13¼	Y	MH625	5	MH625	2S	H ** –8.59	MH625	4H	V	650	1056	c	F	84	12¼x3x⅛	CTf
38	MH630		159	193	33000	▲11711	11.00/20D	12.00/20	Her RXLDH	6-4¾x5½	558	6.0	440	180–2600	7-3½x13¼	Y	MH630	5	MH630	2SF	H ** –8.59	MH630	BW	4A	603	978	c	F	84	12¼x3x⅛	CTf
39	Oshkosh W-212		144	159	21000	▲ 8430	9.00/20D	9.00/20	Her JXLD	6-4x4¼	339		272	130–3000	7-2½x10⅜	Y	Fu 5A43	5	Own W212	SF	H ** –7.2	Own W212	T4	IHDV	401	665	Co	PX	82	8x3x¼	Tf
40	W-312		149	205	25000	▲10000	10.00/20D	11.00/20	Her WXLC3	6-4¼x4¾	404		312	139–2600	7-2½x13¾	Y	Fu 5A43	5	Own W312	SF	H ** –6.8	Own W312	T4	IHDV	510	876	G	PX	82	8¼x3x⅜	TF
41	W1700		150	205	28000	▲11000	11.00/20D	12.00/20S	Her RXC	6-4⅝x5¼	529		395	131–2200	7-3x13¼	Y	Fu 5A620	5	Own W1700	SF	H ** –6.4	Own 1700	T4	IHDV	570	980	G	PX	82	8¼x3x⅝	TF
42	WA-700		150	205	30000	▲12000	11.00/20D	12.00/20	Her RXCO	6-4⅝x5¼	529		395	131–2200	7-3x12¾	Y	Fu 5A650	10	Own WA700	2F	H ** –6.8	Own WA700	L4	IHV	630	975	G	PX	82	10½x3x⅜	TF
43	WA-703		150	205	30000	▲12200	11.00/20D	12.00/20	Her RXLD	6-4¾x5¼	558		430	150–2200	7-3½x13¼	Y	Fu 5A650	10	Own WA700	2F	H ** –6.8	Own WA700	L4	IHV	630	975	G	PX	82	10½x3x⅜	TF
44	W-712		150	205	34000	▲12500	11.00/20D	12.00/20	Her RXLDH	6-4¾x5¼	558		462	190–2600	7-3½x13¼	Y	Fu 5A650	5	Own W712	2F	H ** –6.8	Own W712	L4	IHV	630	975	G	PX	82	10½x3x⅜	TF
45	(D) WA-906R		160	181	40000	▲16000	13.00/20D	14.00/20S	Cum HRB-600	6-5½x6	743		540	165–1800	7-4½x16	Y	Fu 4A86	12	Own WA906R	2F	H ** –6.15	Own WA906R	LT	4IA	645	1190	G	PX	90	10½x3½x¼	TF
46	W2200		160	181	40000	▲16500	13.00/20D	14.00/20S	Bu MO779	6-5¼x6	779		575	188–2100	7-3¾x17	Y	Fu 4A86	12	Own W2200	2F	H ** –6.15	Own 2200	LT	4IA	645	1190	G	PX	90	10¼x3½x⅜	Tf
47	W2201		160	181	40000	▲16500	13.00/20D	14.00/20S	Bu MO893	6-5¼x6	893		670	200–1800	7-3¾x17	Y	Fu 4A86	12	Own W2201	2F	H ** –6.15	Own 2201	LT	4IA	645	1190	G	PX	90	10¼x3½x⅜	TF
48	W2206		160	181	54000	▲19000	13.00/24D	14.00/24	HS 400	6-5½x7	■		930	295–2000	7-3¼x14⅞	Y	Fu5A1120	10	Own W2206	2F	H ** –6.3	Own W2206	LT	4IA	780	1190	G	PX	90	10½x3½x⅝	LF
49	(D) WA2208		160	181	40000	▲16800	13.00/20D	14.00/20S	Cum NHB-600	6-5½x6	743		535	200–2100	7-4½x16½	Y	Fu 4A86	12	Own W2208	2F	H ** –6.15	Own W2208	LT	4IA	645	1190	G	PX	90	10½x3½x⅜	TF
50	(D) W2209		160	181	54000	▲19500	13.00/24D	14.00/24	Cum NHRS600	6-5½x6	743		800	300–2100	7-4½x16½	Y	Fu 5A1120	10	Own W2209	2F	H ** –6.30	Own W2209	LT	4IA	780	1190	G	PX	90	10½x3½x⅝	LF
51	Sterling DD115		160	178	32000	11500	10.00/20	11.00/24	Wau 6SRKR	6-4⅝x5½	517	5.5	368	125–2250	7-3x13¼	Y	Fu 5A624	10	Tim 1357W	2F	H 6.52–8.6	Tim F3110W	Ws	4IA	644	984	A	TX	76	9x3¼x¼	A
52	(D) DD145H		167	185	36000	13900	11.00/20	12.00/24	Cum HB600	6-4½x6	672	17.	500	150–1800	7-4½x16½	Y	Fu 4B86▼	10	Tim 1758W	2F	H 7.33–10.3	Tim F409CW	Ws	4IA	644	984	A	TX	77	9¼x3½x½	A
53	Walter (c.f.) FZM		126	150	24000	9000	12.00/20S		Wau MZA	6-4¼x4¾	404	5.6	290	125–2600	7-2¾x12½	Y	Own FJN	6	Own MS	2	H ** –8.00	Own FJ	O4	IA	470	670	G	FI	84	12x3½x½	B
54	(c.f.) AEB		126	150	32000	13000	12.00/24S		Wau 140GZ	6-4⅜x5½	554	6.2	440	150–2250	7-3¼x14	Y	Own FC	6	Own FCC	2	H ** –9.00	Own FC	O4	IA	585	890	G	FI	96	14x3¼x½	B
55	(c.f.) AGB		138	162	32000	14000	12.00/24S		Wau 145GK	6-5¼x6	779	6.2	585	185–2000	7-3½x17¾	Y	Own FA	6	Own FCC	2	H ** –9.00	Own FC	O4	IA	585	890	G	FI	108	14x3¼x½	B
56	(c.f.) AGR		138	162	42000	15000	12.00/24D		Wau 145GK	6-5¼x6	779	6.2	585	185–2000	7-3½x17¾	Y	Own FA	6	Own FCR	2	H ** –9.00	Own FC	O4	IA	585	890	G	FI	108	14x3¼x½	B
57	Ward La Fr. FD1				35000	▲11500	11.00/22	11.00/22	Cont 6513	6-4½x5¾	513	5.9	405	180–2800	7-3¼x14½		Ful 5A620	5	Tim R462W	S2	R ** –8.15	Tim F3100W	BW	4IA	627	1029	Co	PM		10x3x⅞	C
58	(D) FD2				35000	▲12000	11.00/24	11.00/24	Cum HB600	6-5¼x6	672	17.	500	150–1800	7-4½x16¾		Ful 5A920	5	Tim R462W	S2	R ** –8.15	Tim F3100W	BW	4IA	627	1029	Co	PM		10x3x⅞	C
59	Willys Jp. CJ-3A	1195	80	80	3500	*2108	6.00/16S	7..0/15S	Own CJ-3A	4-3½x4¼	134	6.5	105	60–4000	3-2.33x5.48	N	WG T90C	⅛6	Spi 41	Hy ½	H ** –5.38	Spi 25	B4	IH	118	198	a	F		4x1¾x⅞	P
60	473-4WD	*1597	118	118	5300	*3115	7.00/16S		Own 473	4-3½x4½	134	7.4	114	72–4000	3-2.33x5.48	N	WG T90C	⅛6	Tim 51540	S½	H ** –5.38	Spi 25	B4	IH	176	276	a	2I	42.28	5½x2x⅛	TD

(Turn to Page 158, Please)

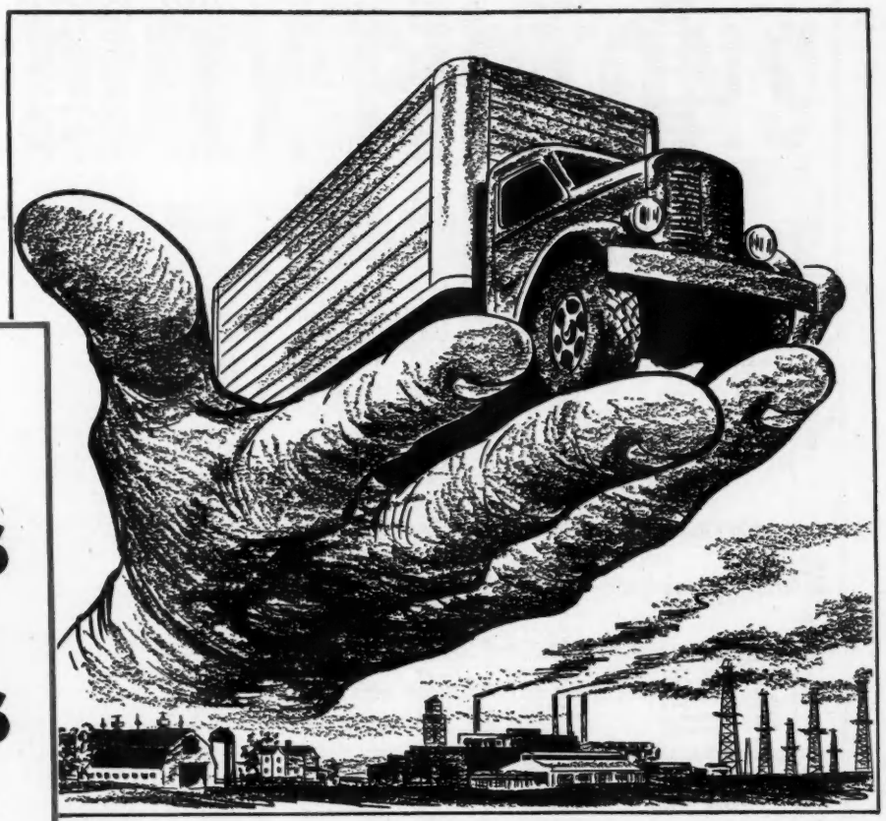
▲ Includes cab.
† Rear of Transfer Case.

‡ Three speed transmission—2 speed transfer case.
▲—Timken T76-Two speed transfer case.

■—1091 cu. in.
▼ Timken T77 2-speed Transfer Case.

*—Complete vehicle with pick-up type body.

Truck Transport... Vital to a Strong America



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WARNER ELECTRIC BRAKE & CLUTCH CO., BELOIT, WIS.

so let's STOP hampering the effectiveness of truck transportation with conflicting regulations.

and let's START taking steps to unify and simplify regulations so that these necessary carriers can best fulfill their role in any emergency.

Trucks have helped America grow and their services are needed now more than ever. They are *the one form of transportation* that closely links together every farm, store, mine, oil field and factory. At once, every effort should be made to simplify and coordinate regulations to enable this vital form of transport to make its full contribution to the nation's immediate needs.

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(Continued from Page 156)

Six-Wheelers

Wheels ▼ Driven

Line Number	Make and Model	Chassis List Price	Wheelbase Minimum Standard	Wheelbase Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	Tire Sizes D-dual rear S-single rear: Standard Front and Rear	Tire Sizes: Maximum Authorized Tire Size (Duals unless noted)	Engine Details: Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Main Bearings: Number Diameter and Length	Governor Standard	Transmission: Make and Model	Forward Speeds	Rear Axle: Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	Front Axle: Make and Model	Brakes Service: Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	Frame: Side Rail Dimensions	Frame: Type
	Corbitt																														
1	G302R34-4R		173		34500		8.25/20	9.00/20	Con B6427	6-4¼x4½	427	5.9	325	127-2600	7-2⅞x13½	Y	Fu 5A430	5	Tim 1055	SdF	L	5.71-7.40	Tim 35000	Ws6IA			a	TX	88	8½x3¼x¼	TL
2	G402R40-4R		173		40000		9.00/20	10.00/20	Con T6427	6-4¼x4½	427	6.3	336	151-2600	7-2⅞x13½	Y	Fu 5A620	5	Tim 1555	SdF	L	5.57-7.80	Tim 35000	Ws6IA	731	1058	a	TD	88	8½x3¼x¼	TL
3	D404R40-4R		173		40000		10.00/20		Cum JBS600	6-4½x5	401		345	150-2500	7-3½	Y	SP 6253	5	Tim 1555	SdF	L	5.57-7.80	Tim 35000	Ws6IA	731	1058	a	TD	88	8½x3¼x¼	TL
4	(T)(D)D808Q46-2C		136		46000		10.00/20	11.00/22	Cum HRBB600	6-5½x6	743	17	540	175-2000	7-4½x16½	Y	Fu 5C720	5	Tim R300	2F	H	4.93-5.91	Tim FE900	Ws6IA	1032	1578	a	2M	68	8x3¼x¼	TL
5	(D) D802R46-4R		188		46000		10.00/20	11.00/20	Cum HRB600	6-5½x6	743	17	540	165-1800	7-4½x16½	Y	Fu 10B1120	10	Tim SW3022	WF	L	4.71-6.17	Tim FE900	Ws6IA	1073	1554	a	TD	84	10½x3¼x¼	TL
	Dodge																														
6	B3VXL, B2VX		154	190	35000		9.00/20	10.00/20	Own T-323	6-3½x5	331	6.5	280	145-3000	7-3x11.23	Y	NP 88450	5	Tim SBD1555	HyS	L	6.8 -7.8	Tim FD900	T6IA	827	1056	C	TX	84	10x3x¼	CP
7	B3YXL, B2YX		154	190	40000		10.00/20	10.00/20	Own T-325	6-4x5	377	6.5	330	154-3000	7-3x11.23	Y	Cla 290V2	5	T SD3010P	2	L	** -8.27	Tim FD900	T6IA	824	1470	c	TX	84	10½x3⅛x⅛	CP
8	Duplex....TH6		162	220	30000	9180	8.25/20	9.00/20	Her JXD	6-4x4½	320	6.2	240	113-3000	7-2½x10‡‡	Y	Fu 5B33‡	10	Tim SBD1055	BF	L	**-6.16	Tim 32502H	L6IHV	513	839	A	TX	83½	9½x3½x⅛	L
9	RH-6		160	208	40000	11500	10.00/20	11.00/20	Her WXLC3	6-4½x4¾	404	5.8	312	139-2600	7-2⅝x13½	Y	Fu 5A43	5	Tim SD3010	2F	R	8.27	Tim FD900	WS61A	1075	1525	A	TX	73½	10½x3⅛x⅛	L
10	(D).....L6		172	208	45000	15000	11.00/20	12.00/20	Cum HB600	6-4⅞x6	672	17	495	150-1800	7-4½x16½	Y	Fu 5A920	5	Tim SD454	SF2	L	6.8-8.15	Tim FE900	Ws6IA	1137	1625	A	TX	77½	10½x3½x⅛	L
11	Federal....663MA		179	225	42000	14500	10.00/20	10.00/22	Con R6602‡‡	6-4⅛x5½	602	6.4	466	205-3000	7-3¼x14½	Y	Fu 5A65▼	15	T SW3012P†	WF	R	** -6.16	Tim FE900	Ws6IA	1082	1569	a	TD	108	10½x3⅛x⅛	TfL
12	.664MAB		179	225	60000	15850	11.00/22	12.00/20	Con R6602‡‡	6-4⅛x5¾	602	6.4	466	205-3000	7-3¼x14½	Y	Spi 7741▼	12	Tim SW456P	WF	R	** -7.6	Tim 27452W	Ws6IA	1308	1888	a	TD	108	10½x3⅛x⅛	TfL
13	.664MA		179	225	60000	16950	11.00/22	12.00/20	Con R6602‡‡	6-4⅛x5¾	602	6.4	466	205-3000	7-3¼x14½	Y	Spi 7741▼	12	Tim SD462P	BR	R	** -8.15	Tim 27452W	Ws6IA	1092	1624	a	TD	108	10½x3⅛x⅛	TfL
14	.2951T		163	199	34000	8600	8.25/20	9.00/20	Her JXDF	6-4x4¼	320	6.5	250	131-3200	7-2½x10‡‡	Y	Cla 205V‡‡▲	10	TSBD1055dph	SF	R	7.53 10.35	Tim 32514H	LT61HV	544	914	a	TX	84	9⅛x3½x⅛	TL
15	.3051T		163	199	36000	8635	8.25/20	9.00/20	Her JXLDF	6-4x4½	339	6.5	272	131-3200	7-2½x10‡‡	Y	Cla 205V‡‡▲	10	TSBD1055dph	SF	R	7.53 10.35	Tim 32514H	LT61HV	544	914	a	TX	84	9⅛x3½x⅛	TL
16	.3451T		167	203	38000	10400	9.00/20	10.00/20	Con T6371F	6-4½x4¼	371	6.4	290	140-3000	7-2⅛x13½	Y	Cla 290V▲	10	TSBD1555dph	SF	R	8.33 11.47	Tim FD900	LT61HV	752	1132	a	TX	84½	10½x3½x⅛	TL
17	.645M		167	215	40000	12325	10.00/22	10.00/22	Con T6427‡‡	6-4¼x4½	427	6.4	347	155-2600	7-2½x13½	Y	Cla 290V	5*	T-SD3010P♦	BR	R	** -9.16	Tim FD900	Ws6IA	1073	1550	a	TD	84½	10½x3½x⅛	TfL
	Freightliner																														
18	(c.o.e.).....A64		176		54000	▲14000	10.00/22		Cum NHB	6-5½x6	743	13½	575	200-2100	7-4½x16½	Y	Fu 4B86‡	12	Own	WF	H	6.66-8.20	Tim 27061	O4RIA	966	1450	a	TD	136	10½x3½x¼	D
19	F.W.D.....H6x6G		Opt	Opt		▲12150	9.00/20D	10.00/20	Wau MZA	6-4¼x4¾	404	5.6	291	130-3000	7-2⅝x12½	Y	Own H	10	Own H	SF	H	** -7.45	Own H	Wg6IHV	673	1130	a	T6	Opt	9x3x¼	C
20	HRC6X6G		Opt	Opt		▲12620	9.00/20D	10.00/20	Wau 140GKB	6-4½x5½	525	6.4	425	172-2600	7-3¼x13‡‡	Y	Own H	10	Own H	SF	H	** -7.4	Own H	Wg6IHA	673	1130	a	T6	Opt	9x3x¼	C
21	MU6X6G		Opt	Opt		▲16000	11.00/20D	12.00/20	Wau 145GK	6-5¼x6	779	6.2	590	186-2000	7-3½x17¾	Y	Own U	10	Own U	SF	H	** -4.9	Own U	Ww6IA	726	1463	a	T6	Opt	10⅛x3x‡‡	C
22	M6x6G		Opt	Opt		▲21000	11.00/24D	12.00/24	Wau 145GK	6-5¼x6	779	6.2	590	186-2000	7-3½x17¾	Y	Own M	10	Wis SD462	2F	L	** -6.06	Wis F409	WW6IA	1080	1680	a	T6	Opt	10⅛x3x‡‡	P
23	(D)....M6X6D		Opt	Opt		▲21600	11.00/24D	12.00/24	Bu DC844	6-5½x6½	844	13	605	180-1800	7-3¾x17	Y	Own M	10	Wis SD462	2F	L	** -5.6	Wis F409	WW6IA	1080	1680	a	T6	Opt	10⅛x3x‡‡	P
24	Kenworth (D).522		191	255	42000	13900	10.00/20	11.00/22	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	T U200PA♦‡	H2F	H	5.91-9.76	Tim FE900N	Ws4IA	880	1368	a	TD	100	9½x3¼x⅛	C
25	(D)523.4R		191	255	42000	14600	10.00/20	11.00/22	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	T SW3012PA	WF	L	4.72-6.16	Tim FE900N	Ws4rIA	868	1400	a	TD	100	9½x3¼x⅛	C
26	(D)524.4R		195	255	42000	15500	10.00/20	11.00/22	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	Tim SW456P	WF	L	5.67-8.20	Tim FE900N	Ws4rIA	1016	1556	a	TD	104	9½x3¼x⅛	C
27	(D)548.4R		191		60000	20200	11.00/22	12.00/24	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	Tim SFD460P	B2F	L	8.07-11.5	Tim FE900N	Ws4rIA	1016	1556	a	TD	100	9½x3¼x⅛	abC
28	(D)552.4R		202		50000	21000	13.00/24	13.00/24	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	Tim SFD460P	B2F	L	8.07-11.5	Tim FE900N	Ws4rIA	1016	1556	a	TD	111	9½x3¼x⅛	dbC
29	(D).....584.4R		191		59500	24200	12.00/24	14.00/24	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	Tim SD472P	B2F	L	8.07-11.5	Shu 12	WW6IA	1312	1956	a	TD	100	9½x3¼x⅛	dbC
30	(D).....825.4R		195	255	42000	14400	10.00/20	11.00/22	Cum HB6	6-4½x6	672	17	500	150-1800	7-4½x16⅛	Y	BL 8241	4	T GSW458P	WF	L	5.67-8.20	Tim FE900N	Ws4rIA	1016	1556	a	TD	104	9½x3¼x⅛	C
31	.829.4R		178	255	42000	13600	10.00/20	11.00/22	Wau 140GZ	6-4½x5½	554	6.4	450	188-2600	7-3x13‡‡	Y	Fu 5C650	5	T SD3010PA	B2F	L	6.84-10.2	Tim FE900N	Ws4rIA	868	1400	a	TD	87	9½x3¼x⅛	C
32	(D).....888.4R		194		110000	29000	14.00/24		Cum NHB6	6-5½x6	743	15	535	200-2100	7-4½x16⅛	Y	BL 8241	4	Tim CDB79	CD		** 14.71	Shu 12	Ws6IA		2447	a	TD	103	10½x3½x‡‡	L
	Marmon-Herr.																														
33	(C).....R5-6		156		22500	▲6850	7.50/20D	7.50/20	Ford	8-3⅛x3¼	239	6.4	180	100-3800	3-2⅜x4.71	N	Ford	4	Timken	S	H	** -6.67	Own	F-H	503	836	a	F	82⅛	7 ½x3x ¼	C
34	(C).....R6-6		180		22500	▲7100	7.50/20D	7.50/20	Ford	8-3⅛x3¼	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Timken	S	H	** -6.67	Own	F-H	503	836	a	F	106⅛	7 ½x3x ¼	C
35	(C)...R5-COE6		156	180	22500	▲7350	7.50/20D	7.50/20	Ford	8-3⅛x3¾	239	6.4	180	100-3800	3-2½x4.71	N	Ford	4	Ford	S	H	** -6.67	Own	F...H	303	563	A	F	106.1	7.08x2.8x ¼	T
36	(C).....Q-5-6		160		35000	▲9550	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145-3600	3-2⅛x5.21	Y	Ford	5	Ford	H	H	** -6.80	Own	F...H	772	1161	A	F	85	9x3x ¼	T
37	(C).....Q-6-6		184		35000	▲9700	9.00/20	10.00/20	Ford	8-3⅛x4⅜	337	6.4	255	145-3600	3-2⅛x5.21	Y	Ford	5	Ford	H	H	** -6.80	Own	F...H	772	1161	A	F	109	9x3x ¼	T
38	(C).....Q-5L-6		172		35000	▲9650	9.00/20	10.00/20	Ford	8-3⅛x4⅛	337	6.4	255	145-3600	3-2⅛x5.21	Y	Ford	5	Ford	H	H	** -6.80	Own	F...H	772	1161	A	F	97	9x3x¼	T
39	(C).....Q-6L-6		203		35000	▲9825	9.00/20	10.00/20	Ford	8-3⅛x4⅛	337	6.4	255	145-3600	3-2⅛x5.21	Y	Ford	5	Ford	H	H	** -6.80	Own	F...H	772	1161	A	F	128	9x3x¼	T
	Oshkosh																														
40	W712-6X6		178	Opt	47000	17900	11.00/20D	12.00/20	Her RXLDH	6-4⅛x5¼	558		462	190-2600	7-3¼x13¼	Y	Fu 5A650	10	Tim SFD450	2F	H	** -6.31	Own-Tim	LT6IA	1156	1889		Opt	110	10 ⅛-3 ⅛-⅛	B
41	(D)....W1500CD		Opt	Opt	47000	19300	11.00/20	12.00/20	Cum HB600	6-4⅞x6	672		500	150-1800	7-4½x16	Y	Fu 4A86	8	Tim SFD-450	2F	H	** -6.31	Own Tim	LT6IA	1156	1889		Opt	Opt	10½-3½-⅛	B
42	(D)..**W1602BDH		Opt	Opt	95000	29300□	14.00/24D	14.00/24	Bu 6DC844	6-5¼x6½	844		600	180-1800	7-3¾x17	Y	Fu 4B186	12	Tim SD472	2F	H	** -13.9	Own-Tim	LT6IA		2217		Opt	Opt	12⅛-3⅛-⅛	B
43	WA1600BG		Opt	Opt	60000	22770	11.00/24D	12.00/24	Bu MO893††	6-5¼x6	893		625	200-1800	7-3¾x17	Y	Fu 4B186	12	Tim SFD460	2F	H	** -9.82	Own-Tim	LT6IA	1156	1189		Opt	Opt	12⅛-3⅛-⅛	B
44	(D)..WA1600CD		Opt	Opt	60000	23400	11.00/24D	12.00/24	Cum HB600**	6-4⅛x6	672		500	150-1800	7-4½x16	Y	Fu 4B186	12	Tim SFD460	2F	H	** -6.14	Own-Tim	LT6IA	1156	1189		Opt	Opt	12⅛-3⅛-⅛	B
45	(D)**WA1600CDH		Opt	Opt	60000	24000□	11.00/24D	12.00/24	Cum HB600**	6-4⅛x6	672		500	150-1800	7-4½x16	Y	Fu 4B186	12	Tim SFD460	2F	H	** -9.82	Own-Tim	LT6IA	1156	1189		Opt	Opt	12⅛-3⅛-⅛	B
	Peterbilt																														
46	(D).....350		193	Opt	42000		10.00/20D	11.00/22	Cum HB600	6-4⅛x6	672	17	500	150-1800	7-4½x16½	Y	Spi 8041	12	Tim SW3022	WF	R	6.00- 8.5	Tim FE900DPA	Ws6IA	1125	1569		TD	99½	10⅝x3½x⅛	CT
47	(D).....360		198	Opt	54000		10.00/20D	11.00/22	Cum HB600	6-4⅛x6	672	17	500	150-1800	7-4½x16½	Y	Spi 8041	12	Tim SW456W	WF	R	6.00-10.2	Tim FE900DPA	Ws6IA	1005	1517		TD	104⅛	10⅝x3½x⅛	CT
48	(D).....370		198	Opt	58000		10.00/20D	11.00/22	Cum HB600	6-4⅛x6	672	17	500	150-1800	7-4½x16½	Y	Spi 8041	12	Tim SW456W	WF	R	6.00-10.2	T 27463	Ws6IA	1084	1626		TD	104⅛	10⅝x3½x⅛	CT
49	(D).....380		194	Opt	58000		10.00/20D	11.00/22	Cum HB600	6-4⅛x6	672	17	500	150-1800	7-4½x16½	Y	Spi 8041	12	Tim SD462W	2F	R	** -8.07	T 27463	Ws6IA	1084	1626		TD	98½	10⅝x3½x⅛	CT
50	(D).....390		197	Opt	79000		12.00/24	14.00/24	Cum HB600	6-4½x6	672	17	500	150-1800	7-4½x16½	Y	Spi 8041	12	Tim SD472W	2F	R	** -8.07	T 27463	Ws6IA	1622	2215		TD	103½	10½x3½x⅛	CT
51	Reo.....E-226		150	203	40000		9.00/20	10.00/20	Own 331	6-4½x4½	331	6.4	264	140-3200	7-2½x9.408	Y	Cla 205V	5	Tim SFD157	F2	T	6.49-7.66	Tim FD900	T6IVH	670	1134	var	TX	85½	9½x3⅛x¼	Tf
52	E-236		169	203	42000		10.00/20	11.00/20	Con T6427	6-4⅛x4½	427	6.4	343	151-2800	7-2⅛x12.1	Y	Cla 290V	5	Tim SD3010	SFd	T	7.5	Tim 36000	TWs6IA	1082	1570	var	TD	104⅛	9½x3⅛x⅛	TfB

▲ Includes Cab.
‡‡ Overdrive optional.

(Turn to Page 160, Please)

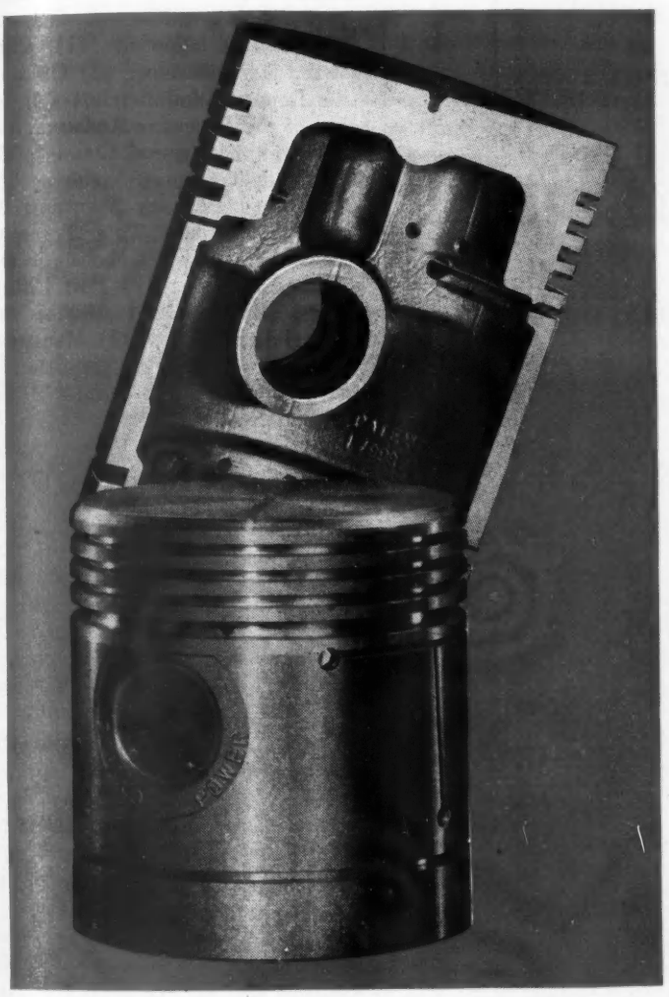
♦♦ Timken T13126 PA Trailing Axle.
‡ Model SW3010 obtainable.
▲ Auxiliary transmission Spicer 703F or 8031 with 3 forward speeds.
▲ Torque divider, Timken T70-2 speed.. T50 obtainable.

** Hydraulic coupling.
† SW3013 obtainable.

‡‡ Diesel engine obtainable.
§—Torque Divider, Timken T70-2 speed
‡—Fuller 3B92 auxiliary transmission.
□ Auxiliary transmission Spicer 6231B at extra cost gives 15 forward speeds.

□ Chassis weights on duals front, center and rear.
**—Other Cummins 6 cyl. engines optional.
††—Buda 6DC-844 optional.

Sealed Power
HEAVY DUTY PISTONS



Built to outwear all other Pistons!

- ✓ Genuine Lo-Ex*Aluminum Alloy for longest service.
- ✓ T-Slot for uniform heat transfer.
- ✓ Cam-ground for greater bearing area.
- ✓ Rugged internal construction with extra metal where needed.
- ✓ Heat-treated for maximum resistance to extreme pressure and high temperatures.
- ✓ Available with Ebonited surface, GI-60 groove insert and pin fitted.

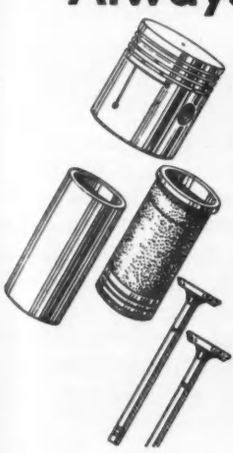
*Registered trade mark of Aluminum Co. of America

For best results, re-power with Sealed Power Pistons!

Write for name of nearest distributor

SEALED POWER CORPORATION
MUSKEGON, MICHIGAN

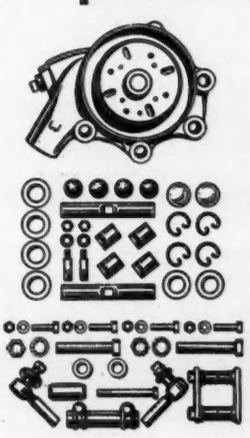
Always use Sealed Power parts for best results



HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

WET OR DRY SLEEVES—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

VALVES—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.

KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.

TIE RODS & SHACKLES—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.

(Continued from Page 158)

Line Number	MAKE AND MODEL	Chassis List Price	WHEELBASE Minimum Standard	WHEELBASE Maximum Standard	Gross Vehicle Weight for Normal Service	Chassis Weight (See definition)	TIRE SIZES Standard Front and Rear	TIRE SIZES D-dual rear S-single rear	TIRE SIZES Maximum Authorized Tire Size (Duals unless noted)	ENGINE DETAILS Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M. Given	Number Main Bearings	Diameter and Length	Governor Standard	TRANSMISSION Make and Model	Forward Speeds	REAR AXLE Make and Model	Gear and Type	Drive & Torque	Gear Ratio Range in High	FRONT AXLE Make and Model	BRAKES SERVICE Make Location Type Operation	Lining Area	Drum Area	Drum Material	Hand Location Type	C-A Dimensions (Min. Std. W. B.)	FRAME Side Rail Dimensions	FRAME Type
	Sterling																																	
1	HB8130		164	183	32000	11000	5.25/20		10.00/20	Wau 6MZA	6–4½x4¾	404.5	6	290	130–300	7	2¾x12½	Y	Fu 5A43	5T–SBD1555DPH	SF	L	6.80–13.14	T–35011H	T6IHV	664	1134	A	TX	83	9x3½x½	A
2	HD8140		164	183	36000	11800	9.00/20		10.00/20	Wau 6MZA	6–4½x4¾	404.5	6	290	130–300	7	2¾x12½	Y	Fu 5A43	5T–SD3010PA	2F	L	6.84–10.22	T–35011TW	W6IA	1074	1554	A	TX	83	9x3½x½	A
3	HW8160		164	183	42000	12500	10.00/20		11.00/22●	Wau 6SRKR	6–4½x5¼	517.5	5	368	125–225	7	3x13¼	Y	Fu 5A62	5T–SW30010PA	WF	L	5.40–8.50	T–36000TW	W6IA	1082	1574	A	TX	92	9x3½x½	AL
4	HW8235		182	193	52000	15700	11.00/20		11.00/24	Wau 145GK	6–5x6	779	6	255	186–210	7	3½x17¾	Y	Fu 4B86	4T–SW456P	WF	L	5.67–8.20	T–27454W	W6IA	1308	1892	A	TX	92	9½x3½x½	A
(D)	HW8160H		182	193	42000	14250	10.00/20		11.00/22	Cum HB600	6–4½x6	672	17	500	150–180	7	4½x16½	Y	Fu 4B86	4T–SW30012PA	WF	L	4.71–6.17	T–36000TW	W6IA	1082	1574	A	TX	92	9½x3½x½	A
(D)	HW8235H		182	193	52000	16000	11.00/20		11.00/24	Cum HB600	6–4½x6	672	17	500	150–180	7	4½x16½	Y	Fu 4B86	4T–SW456P	WF	L	5.66–8.20	T–27454W	W6IA	1308	1892	A	TX	92	9½x3½x½	A
(D)	HW8330H		170	189	48000	15300	10.00/20		11.00/22	Wau 140GK	6–4½x5½	5256	6	426	142–220	7	3¾x13¾	Y	Fu5A62–3A92	15 Own 195W	CD	R	6.04–7.31	T–36000TW	W6IA	1082	1802	A	TX	83	9½x3½x½	AL
	Truckstell																																	
8	HCS265		182	193	60000	17750	11.00/20		12.00/24	Wau 145GK	6–5x6	779	6	255	186–210	7	3½x17¾	Y	Fu 4B86◆◆	12 Own 265W	CD	R	9.21–13.16	T–27454W	W6IA	1060	1912	A	JX	92	9 1/4x3 1/2x 1/2	AL
9	HCS297		182	193	70000	19750	12.00/24		13.00/24♦	Wau 145GK	6–5x6	779	6	255	186–210	7	3½x17¾	Y	Fu 4B86◆◆	12 Own 330W	CD	R	9.21–13.16	T–27454W	W6IA	1280	1988	A	JX	92	12x3½x½	AL
10	HCS330		182	193	80000	21750	14.00/24		15.00/24♦	Wau 145GK	6–5x6	779	6	255	186–210	7	3½x17¾	Y	Fu 4B86◆◆	12 Own 195W	CD	R	6.04–7.31	T–36000TW	W6IA	1082	1802	A	TX	92	9 1/4x3 1/2x 1/2	AL
(D)	HCS265H		182	193	60000	18100	11.00/20		12.00/24	Cum HBD600	6–4½x6	672	17	500	150–180	7	4½x16½	Y	Fu 4B86◆	12 Own 265W	CD	R	9.21–13.16	T–27454W	W6IA	1160	1912	A	JX	92	9 1/4x3 1/2x 1/2	AL
(D)	HCS297H		182	193	70000	21050	12.00/24		13.00/24♦	Cum HBD600	6–4½x6	672	17	500	150–180	7	4½x16½	Y	Fu 4B86◆	12 Own 330W	CD	R	9.21–13.16	T–27454W	W6IA	1280	1988	A	JX	92	9 1/4x3 1/2x 1/2	AL
(D)	HCS330H		174	187	80000	23450	12.00/24		14.00/24♦	Cum HBD600	6–4½x6	672	17	500	150–180	7	4½x16½	Y	Fu 4B86◆◆	12 Own 330W	CD	R	9.21–13.16	T–27454W	W6IA	1280	1988	A	JX	91	12x3½x½	AL
	Truckstell																																	
15 (C)	F4X26	4R	144	209	20000	7300	7.50/20		8.25/20●	Ford	8–3¼x3¾	239.6	8	180	100–380	3	2.49x4.9	N	Ford◆◆	8 Ford	8F	R	**	–6.67 Ford	F6IHV	498	836	Co	TX	64	8x3x.46	TL
16 (C)	F4X27 (coe)	4R	126	185	27000	7665	7.50/20		8.25/20●	Ford	8–3¼x3¾	239.6	8	180	100–380	3	2.49x4.9	N	Ford◆◆	8 Ford	8F	R	**	–6.67 Ford	F6IHV	498	836	Co	TX	71	8x3x.46	TL
17																																		
18	F4X29	4R	156	200	29000	7850	7.50/20		8.25/20–10	Ford	8–3¼x3¾	239.6	8	180	100–380	3	2.49x4.9	N	Ford◆◆	12 Ford	H	F	**	–7.2	Ford	F6IHV	498	836	Co	TX	64	8x3x.46	TL
19	F4X30	4R	126	185	30000	8200	7.50/20		8.25/20–10	Ford	8–3¼x3¾	239.6	8	180	100–380	3	2.49x4.9	N	Ford◆◆	12 Ford	H	F	**	–7.2	Ford	F6IHV	498	836	Co	TX	71	8x3x.46	TL
20 (C)	F4X29	4R	156	200	29000	7800	8.25/20		9.00/20	Ford	8–3.94x4	244.6	8	212	110–340	4	2.83x5.0	Y	Ford◆◆	12 Ford	H	F	**	–7.2	Ford	F6IHV	498	836	Co	TX	71	8x3x.46	TL
21 (C)	F4X30 (coe)	4R	126	185	30000	8200	8.25/20		9.00/20●	Ford	8–3.94x4	244.6	8	212	110–340	4	2.83x5.0	Y	Ford◆◆	12 Ford	H	F	**	–7.2	Ford	F6IHV	498	836	Co	TX	71	8x3x.46	TL
22 (C)	F4X34	4R	156	228	34000	10650	9.00/20		10.00/20●	Ford	8–3¾x4	337.6	8	255	145–360	3	2.87x5.0	Y	Ford◆◆	15 Ford	H	F	**	–7.19	Ford	F6IHV	745	1360	Co	TX	82	9½x3½x½	TL
23 (C)	F4X38	4R	156	228	38000	10650	9.00/20		10.00/20●	Ford	8–3¾x4	337.6	8	255	145–360	3	2.87x5.0	Y	Ford◆◆	15 Ford	H	F	**	–7.19	Ford	F6IHV	825	1231	C	TX	82	9½x3½x½	TL
24	F4X40	4R	156	228	40000	11340	9.00/20		10.00/20	Ford	8–3¾x4	337.6	8	255	145–360	3	2.87x5.0	Y	Ford◆◆	15 Ford	H	F	**	–7.87	Ford	F6IA	825	1231	c	TX	82	9½x3½x½	TL
25 (C)	C4X28	4R	151	217	28000	7500	7.50/20		8.25/20●	Chev.	6–3.94x3¾	235.6	6	192	93–310	4	2.87x5.0	Y	Chev.	8 Chev.	H	F	**	–6.17	Chev.	C6IHV	797	930	Co	TIX	68	9½x3½x½	CC
26 (C)	C4X29 (coe)	4R	125	192	29000	7865	7.50/20		8.25/20●	Chev.	6–3.94x3¾	235.6	6	192	93–310	4	2.87x5.0	Y	Chev.	8 Chev.	H	F	**	–6.17	Chev.	C6IHV	797	930	Co	TIX	69	9½x3½x½	CC
27	C4X29	4R	151	217	29000	8040	7.50/20		9.00/20–10	Chev.	6–3.94x3¾	235.6	6	192	93–310	4	2.87x5.0	Y	Chev.◆◆	12 Chev.	H	F	**	–6.17	Chev.	C6IHV	797	930	Co	TIX	68	9½x3½x½	CC
28	C4X30 (coe)	4R	125	192	30000	8400	7.50/20		9.00/20–10	Chev.	6–3.94x3¾	235.6	6	192	93–310	4	2.87x5.0	Y	Chev.◆◆	12 Chev.	H	F	**	–6.17	Chev.	C6IHV	797	930	Co	TIX	69	9½x3½x½	CC
29	Ward La Fr. DIT‡‡		180	220	39500		10.00/20		11.00/20	Con T6427	6–4½x4½	427		340	152–260	6			Fu 5A43◆◆	15 Tim 8D3010P	2F	L	**	–8.27	Tim 3501TW	T41A					10x3½x½	C
30	D2KT‡‡		180	220	39500		10.00/20		11.00/20	Wau 140GK	6–4½x5½	525		425	168–240	6			Fu 5C65◆◆	15 Tim 8D3010P	2F	L	**	–7.50	Tim 3501TW	T41A					10x3½x½	C
31	D2ZT‡‡		180	220	39500		10.00/20		11.00/20	Wau 140GZ	6–4½x5½	554		458	184–240	6			Fu 5C65◆◆	15 Tim 8D3010P	2F	L	**	–7.50	Tim 3501TW	T41A					10x3½x½	C
32	D3T‡‡		180	220	39500		10.00/20		11.00/20	Con R6572	6–4½x5½	572		440	196–260	6			Fu 5C65◆◆	15 Tim 8D3010P	2F	L	**	–7.50	Tim 3501TW	T41A					10x3½x½	C
33	D3ST‡‡		180	220	39500		10.00/20		11.00/20	Con R6602	6–4½x5½	602		463	206–260	6			Fu 5C65◆◆	15 Tim 8D3010P	2F	L	**	–7.50	Tim 3501TW	T41A					10x3½x½	C
34	D5T‡‡	(D)	180	220	42000		11.00/20		12.00/24	Cum HB600	6–4½x6	672		500	150–180	7			Fu 5C72◆◆	15 Tim 8D3010P	2F	L	**	–6.84	Tim FE900	T41A					10x3½x½	C
35	D5ST‡‡	(D)	180	220	42000		11.00/20		12.00/24	Cum NHB600	6–5½x6	743		540	200–260	7			Fu 5C72◆◆	15 Tim 8D3010P	2F	L	**	–6.84	Tim FE900	T41A					10x3½x½	C
36	D5NT‡‡	(D)	180	220	42000		11.00/20		12.00/24	Cum NHB600	6–5½x6	743		540	200–2100	7			Fu 5C72◆◆	15 T 8W3012PA	WF	L	**	–6.17	Tim FE900	T41A					10x3½x½	C

● Includes Cab.
‡ 2-speed locked in low axle ratio.
‡‡ Rear only: Front 11.00/24.
‡‡—Available with optional rear axles.
‡‡—Available with 11.00/22 or 12.00/20 tires for G.V.W. of 60,000 lbs. and optional front and rear axles.

◆ Auxiliary transmission. Spicer 8031.
◆◆ Two speed axle with vacuum shift.
◆◆—Auxiliary transmissions Fuller 3A65, 3B65, 3A92 and 3B92.
◆ With Baunds auxiliary transmission.
▼ Including slip-over reinforcing frame channels.
▼▼ With Baunds power divider.
● Single front dual rear.
●—When 11.00/22 tires are required it is necessary to furnish 52 inch axle spacing.

DTA Regroups . . .

A DTA organizational change is in process whereby several new "divisions" are being set up within DTA to meet the increased tempo of the defense mobilization work and to properly allocate the responsibilities for handling the various transportation problems according to the different types and classes of carriers involved.

Under an amendment to Organization Order DTA 1, the internal organization of the Defense Transport Administration will now consist of the following: (1) Office of the Administrator; (2) Office of the Deputy Administrator; (3) Office of the Executive Assistant; (4) Office of the General Counsel; (5) Railroad Transport Division; (6) Street and Highway Transport Division; (7) Inland Water Transport Division; (8) Warehousing and Storage Division; (9) Port Utilization Division; (10) Equipment and Materials Division; (11) Manpower Division; (12) Tax Amortization and Defense Loan Branch; (13) Information Officer; and (14) Administrative Officer. The original order provided only for "industry consultants" or "transport specialists" under above categories (5) through (9), which are now accorded a Division status. A new branch has also been created to handle tax amortizations and defense loans. (The new general organization chart for DTA is attached as a part of this bulletin.)

The Street and Highway Transport Division is also being reorganized and broken down into branches and sections (somewhat similar to the former ODT setup), and personnel is being recruited rapidly to staff the expanded organization. Just as soon as a definite picture emerges, we will advise our membership of the complete highway transport setup and supply an organizational chart of this new division.

Metal Supplies Short

Unfilled orders of the Duraloy Co., Scottsdale, Penna., high-alloy metal producer, now stand at the highest level in its history, approximately $2,000,000. This represents a backlog increase of 25 per cent over Jan. 1, and compares with a $450,000 backlog last June. Company Officials declare that a shortage of nickel is responsible for 75 per cent of this pileup of unfilled orders.

FEDERAL FEATURES WIN in Nation-Wide Survey!

"What features would you include in a motor truck if you were to build it yourself?" Prominent truck operators from coast to coast were asked this question through an independently conducted national survey. Thousands responded. Feature for feature . . . the all-new Federal *Style LINER* Trucks came closest to meeting their specification requirements. That's what makes the new Federal *Style LINER*—with exclusive features never before offered by the truck industry—such an outstanding value in top flight payload performance. It will pay you to see your Federal dealer for a demonstration.

FEDERAL MOTOR TRUCK COMPANY, DETROIT 9, MICHIGAN, U. S. A.

- **30% GREATER STRENGTH**—sturdier built chassis plus a stronger, bigger frame adds important strength to the *Style LINER*.
- **60% GREATER VISIBILITY**—one piece bent plate glass windshield without center bar assures full, unobstructed vision.
- **100% GREATER ACCESSIBILITY**—exclusive "Swing-Lift" fenders, make engine, steering, brakes and accessories easier than ever before to get at.
- **ROOMIER CABS**—built for extra comfort. Deep cushioned, wider seats, fully adjustable, will easily accommodate 3 big men.
- **RADIUS ROD DRIVE** (on most models) saves wear and tear on axles and springs.
- **ALL-WEATHER AIR CONDITIONING**—fresh air heater and defroster thermostatically controlled for all-weather driving comfort available.

FEDERAL TRUCKS

New York Enacts Ton-Mile Tax

Many see this legislation setting a precedent which other states may follow

Thanks to a spectacular last minute push from the Governor's mansion (see editorial, page 20), New York state passed its ton-mile tax middle of last month.

As enacted, the tax provides for a payment of a graduated charge on trucks having a loaded weight of 18,001 pounds or more. The charge starts at 6 mills per mile for the lowest weight class, 18,001 to 20,000 lb loaded weight and from there graduates upward to 24 mills per mile for trucks with a loaded weight in excess of 60,000 lb. Exemptions include buses or trucks operating wholly within a single city or metropolitan district as defined by the Public Service Commission (of N.Y.), government-owned vehicles, and farmer-owned trucks used to transport produce of the owners farm. Additional exemptions under the Thruway Authority are under consideration. The State has appropriated $2,000,000 for setting up weighing-in devices.

The motivating force behind passage of the measure was a desire on the part of the state legislature to raise an additional $20 to $30 million. Annual reports of trucking firms may have been the seed that germinated the new proposal. In any event this figure was reduced to an estimate of $6 million to be raised from truck sources.

Events leading up to the passage of the bill include these developments:

A group of state officials visited Salem, Oregon, to make a study of methods of putting the tax into operation. The State of Oregon has a law which places a tax on mileage and tonnage similar to the New York proposal. At that point, public sentiment and cooperation was appealed to by the sponsors of the measure led by State Senator George T. Manning, Republican, of Rochester, N. Y.

Fear that opponents of the tax might convert enough legislators to their view to make enactment difficult or impossible, caused Governor Thomas E. Dewey to send an "emergency" message to the legislature to speed immediate passage without further debate. The message waived a three-day waiting period between the filing of a print in final form and the final vote on the measure. The State Constitution gives the Governor power to make such a waiver.

Mr. Dewey said: "Because the tax it levies will provide essential revenues during the next fiscal year, it would be unfortunate to have any delay in the consideration of the legislation as amended." The tax is to provide for funds for civil defense and pay increases for state employees and teachers.

(TURN TO PAGE 165, PLEASE)

2-WAY OIL CONTROL
. . . A SENSIBLE COMBINATION

. . . . INSTALL BURD SUPER HI-SPEED OIL RINGS IN BADLY WORN CYLINDERS

Start your oil control treatment with *Super Hi-Speeds*—the safe, sure way to eliminate oil pumping in tapered or out-of-round bores. Proved in practice, they conform to cylinder walls—assure maximum wiping action with minimum wear—restore power and compression—positively control oil. Available in combination sets for every make and model. Try them on your next tough job!

. . . . FOLLOW UP WITH BURD EASY-TO-INSTALL VALVE PACKING

A smart move by any fleet maintenance man. Gives you greater insurance against oil and compression leaks through worn intake valve stems and guides. Burd is *the original top-of-guide* valve packing. Really keeps oil *in* the guide; keeps it *out* of the combustion chamber. Easy to use. Easy to order. Get it from your Burd jobber and make it a must on every re-ring job that comes your way!

BURD PISTON RING COMPANY • ROCKFORD, ILLINOIS

Mail Trucks Completed

The completion of the 2015th U. S. mail delivery truck body by the Boyertown Auto Body Works on schedule, was marked by a dinner and the checking out of the final unit by the U. S. Post Office resident inspector, Joseph Gruber, at Boyertown, Pa.

Standing with the last of the post office units, and the pilot model are Paul R. Hafer, president of the Boyertown Auto Body Works, Joseph Gruber, resident post office inspector, and Eddie Simons of the Ford Motor Co.

Ton-Mile Tax

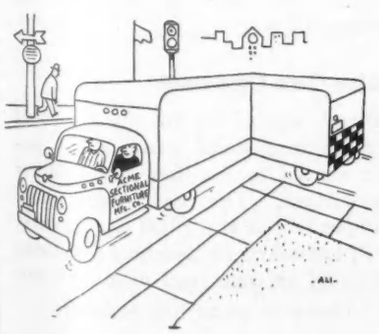
Continued from Page 162

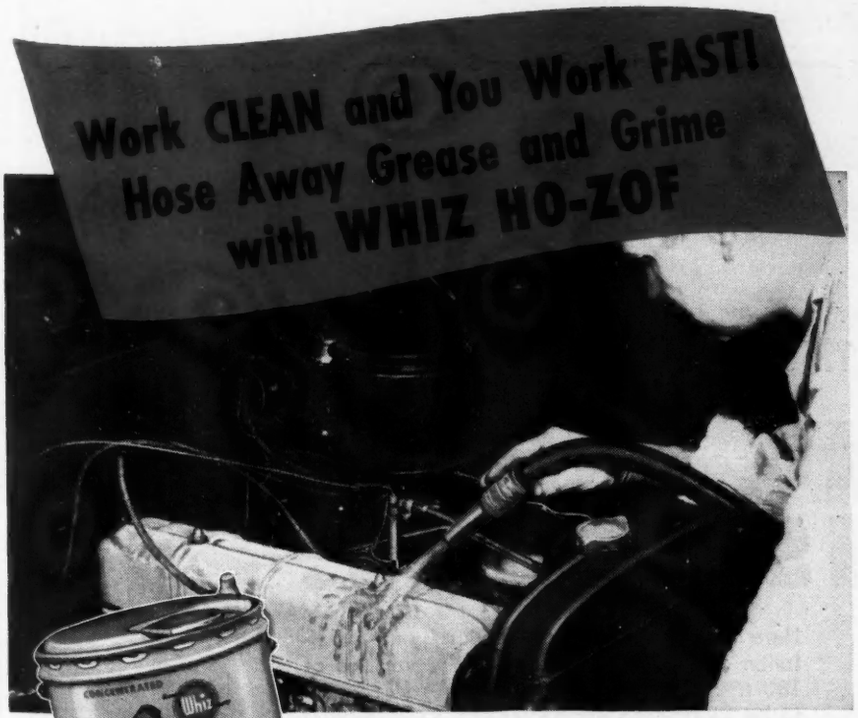
Is A Consumer Tax

An amendment to the act clearly places the tax burden eventually upon the individual consumer. Trucks using New York highways will be required to pay the tax if they operate outside the local area occupied by the owner's business. The amendment delays official opening of the tax collection points until October 1, "to allow time for carriers to apply for increases in freight rates." With rising costs of transportation, plus this additional tax, the effect on the consumer in the New York area can not help but being adverse.

Objections Were Aired

From states neighboring New York, direct action was taken. The New Jersey Motor Truck Association asked that the industry's executives consider the effect that the legislation would have on the Garden State. They pointed out, " . . . ton-mile tax proposals contemplate throwing barriers around the states in the form of ports of entry and taxing out-of-state trucks. In fact . . . one-third would come from out-of-state vehicles. Any such trade barriers around New York State because of its geographical position would probably result in retaliation by other states and in the end much of the valuable ground gained in extension of reciprocity agreements would be lost.





You can do better repair work in your shop—and you can do it more efficiently when you use WHIZ HO-ZOF. Why?—*because* HO-ZOF *gives you a way to clean out grease and grime at very low cost!* You can *spray or brush* HO-ZOF over grease—wait a few seconds—then hose away the dirt.

WHIZ HO-ZOF is a concentrated degreasing solution which is used diluted 1 part to 8 parts kerosene. HO-ZOF dries rapidly, leaves no film, and does not affect paints, metals or hands. Use on motors, tools, floors, brake-linings, etc. Available in bulk sizes.

ASK YOUR JOBBER
for HO-ZOF and other WHIZ products today! If he cannot supply you, ask him to stock them for you.

GET IT FROM YOUR JOBBER

Member of M.E.M.A.
N.S.P.A. and A.E.R.A.

LOOSEN-ALL
Another WHIZ Time Saver!
WHIZ LOOSEN-ALL quickly frees metal parts which are seized, rusted or painted over. LOOSEN-ALL cuts rust, scale, corrosion, red or white lead, shellac, dirt, carbon and gum! Handy squirt-gun* pint can.
*Patent Pending

WHIZ No. 4 BRAKE FLUID
Heavy-Duty Quality at Less Cost!
No. 4 Hydraulic BRAKE FLUID is undeniably the best heavy-duty brake fluid made anywhere—yet it costs less than other top grade products. Don't gamble with brakes—get WHIZ No. 4!

Whiz
R. M. HOLLINGSHEAD CORPORATION
LEADER IN MAINTENANCE CHEMICALS
Camden 2, N. J. • Toronto, Canada • Warehouses: Chicago, Dallas, San Francisco

CCJ News Reports . . .

Continued from Page 27

Equipment and Maintenance

"How Many Axles are Optimum on Dry-Freight Carrying Combinations?"

"What Parts of a Truck Need Design or Accessibility Improvement for Better Maintenance."

"A Garage Set-up for Production Line Preventive Maintenance."

"What Parts Salvage Practices Can Be Used to Advantage During Shortages?"

"Tire Recapping Practices and Results."

"Effect of Lower Octane Gasoline or Lower Cetane Diesel on Maintenance."

Terminal Operations Council

"General Office Daily Reports of Revenue, Tonnage, Load Balance and Costs by Individual Terminals."

"What Good Public and Labor Relations Mean to a Terminal Manager."

"How to Cure Refrigerated Transport Troubles."

Round Table — "Trailer Interchange Problems."

Round Table — "Desirable Architectural Features of Motor Freight Docks."

Round Table—"Methods of Improving Pickup and Delivery Production."

Panel — "Centralized Checking System and Equipment for Motor Freight Terminals."

Council of Safety Supervisors

"Educating Front Line Management."

"A Practical Accident Prevention Program."

"Labor's Interest in Safety."

"Harvard University Highway Accident Study-Progress Report."

"Management Responsibility in Training."

"Civil Defense Needs—A Panel."

Sleep Insures Driver Safety

A report on a recent survey of professional drivers made by Dr. W. A. Eggert, chief psychologist for the Kemper Insurance Group in Chicago indicates that an extra hour of sleep may mean the difference between a traffic accident and a safe trip.

Dr. Eggert says a driver who sleeps seven hours or less per night is inviting trouble. In his survey, the doctor found that accident-free drivers all averaged eight or more hours of sleep each night.

So one may gather from the report that a primary concern in accident research or study is how many hours the drivers involved had slept out of a 24-hour day.

Mrs. Ted V. Rodgers Dies

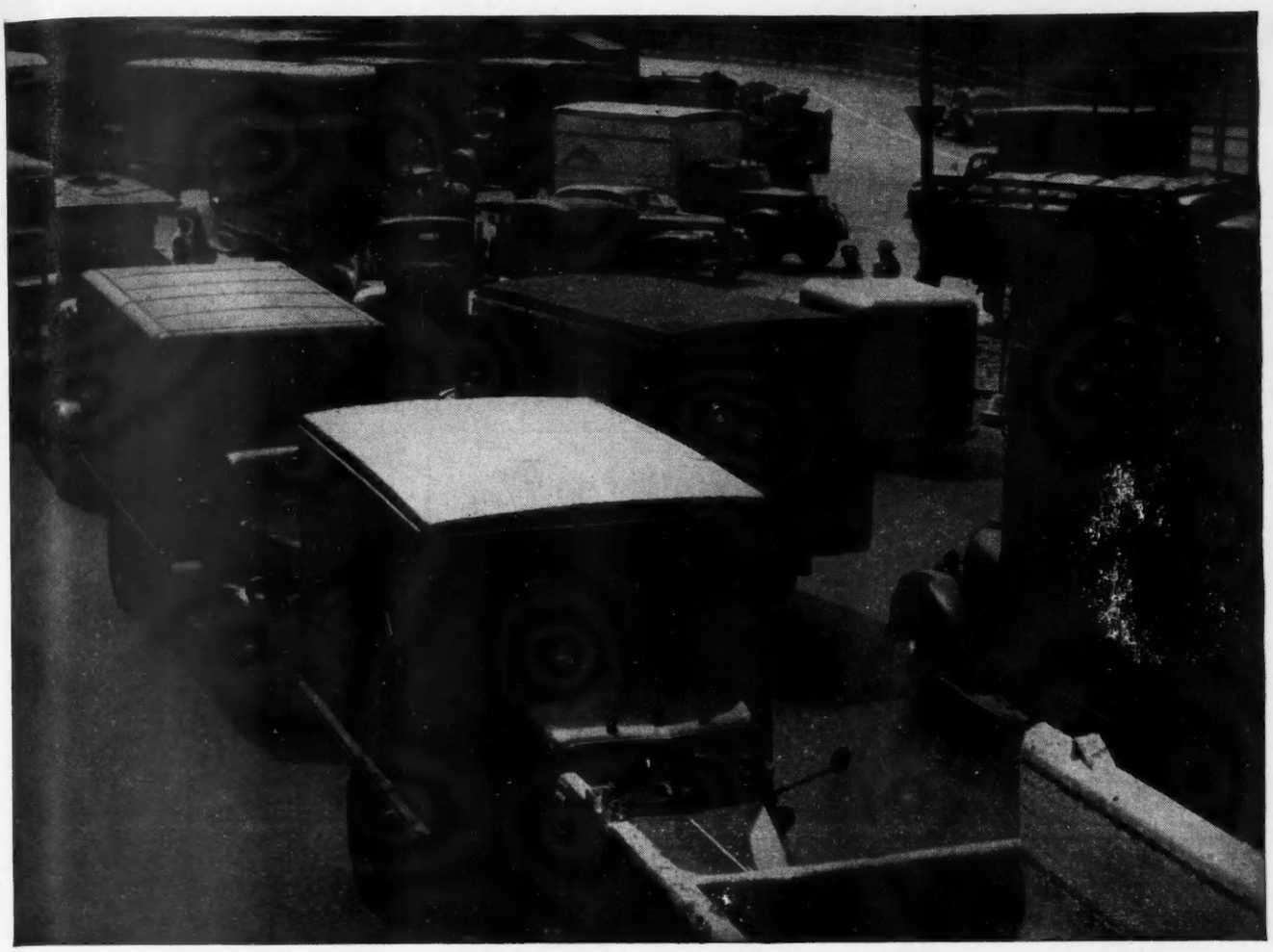
Announcement has been received of the death of Mrs. Ted V. Rodgers, wife of the honorary chairman of the board, American Trucking Associations. Mrs. Rodgers had been ill for about six months.

Excise Tax Opposed

Direct opposition to the proposed increase in Federal gasoline tax has been started by the New Jersey Motor Truck Assn. The association, whose headquarters is at 10 Hill St., Newark, N. J., has asked its members and those interested or concerned with the auto-

(TURN TO PAGE 168, PLEASE)

This kind of
HOARDING
IS LEGAL!
Here is what was accomplished just by the installation of Handy Governors on the vehicles of 180 truck fleets. The saving on tires was found to be 22.6%, on engine repairs 32%, on fuel 13.5%, on lubricants 26%, on brake maintenance 29.2% and general maintenance 26%. Furthermore it reduced insurance 16% and cut the cost of accidents 37%.
In the face of war shortages which will certainly get progressively worse is there any better way to conserve equipment and at the same time make substantial dollar savings? This kind of hoarding is not only legal but it pays good dividends.
Write for quotation on equipping the vehicles of your fleet with Handy Governors.
KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN
PLANTS AT
ANN ARBOR, SCIO,
YPSILANTI



Reduce costly maintenance time with help of Exide Batteries

Keep your trucks rolling . . . doing a full-time job, day after day in all kinds of weather. Ruggedly-built, long-lasting Exide Batteries can help. For when your trucks are Exide-equipped, battery maintenance time and maintenance costs are practically nil.

Whether your fleet consists of half-ton pickups or heavy-duty haulers, you can always count on dependable Exide Batteries. Measured by performance or operating and maintenance costs, Exide is your best battery buy at any price.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 2
Exide Batteries of Canada, Limited, Toronto
"Exide" *Reg. Trade-mark U.S. Pat. Off.*

1888 . . . DEPENDABLE BATTERIES FOR 63 YEARS . . . 1951

Exide has EVERYTHING

Surplus STARTING POWER
Extra LONG LIFE
LOW COST PER MILE OF OPERATION

WHEN IT'S AN EXIDE YOU *START*

CCJ Reports

Continued from Page 166

mobile industry in general, use every practical means to effect defeat of the proposals.

By More Than One Organization

The National Highway Users Conference discredits the luxury theory of automobile ownership, said to be the basis of the proposed Federal excise tax. The Conference maintains that to a great many people, an automobile is an indispensable necessity, both for general transportation and for actual business use. The Conference also charges that "The proposed increase on the passenger automobile clearly indicates a complete lack of understanding of the indispensability of the private car in the economy of our country."

DTA Consultant Named

Sam F. Niness, Downingtown, Pa., has been appointed consultant on tank trucks to the Street and Highway Division of the Defense Transport Administration, by James K. Knudson, Administrator of DTA. Mr. Niness is president of Leaman Transportation Corp. and Chemical Tank Lines, Inc., both of Downingtown, Pa. Well qualified for the new post, he served during World War II as Director of the Tank Truck Division of the Office of Defense Transportation. He was president of the National Tank Truck Carriers, Inc., during 1949 and 1950 and is presently a member of the board of directors, and represents the organization on the National Petroleum Council.

Truckers Aid Legion Drive

Reports from many areas indicate that trucking companies have pitched in again in the American Legion's Tide of Toys campaign recently completed. The drive is designed to collect new or slightly used toys immediately after Christmas. The toys are collected and packaged by local Legion Posts and then sent to the Legion point of embarkation in Philadelphia.

In remote areas throughout the countries long distance carriers have volunteered to transport the toys to Philadelphia at greatly reduced rates if not entirely free of charge.

Sun Oil Certified

Road test certification by the American Automobile Association is featured by Sun Oil Co. in announcements of its new premium, heavy-duty motor oil. The new oil received the Triple-A road test seal after a round-trip run between Quebec and Key West. It was certified by the AAA for engine cleanliness, long mileage and minimum engine wear.

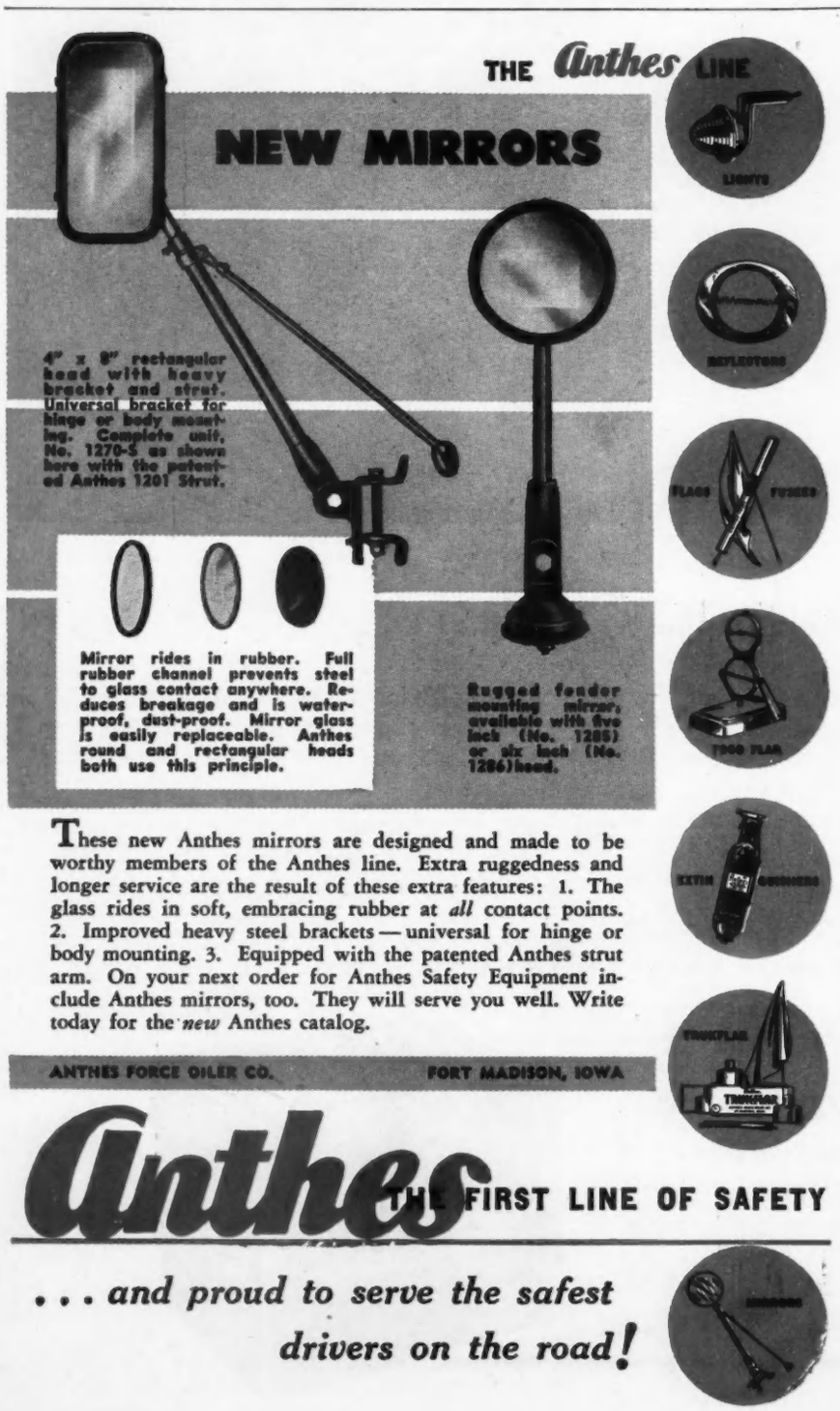
More Freight Cars Wanted

An appeal to the Defense Production Authority to resume allocation of sufficient steel to permit construction of 10,000 freight cars a month has been made by the Chamber of Commerce of the United States. The NPA has cut steel assigned for this construction to 9000 cars beginning May 1.

Equipment Show Cancelled

Members of the Automotive Council Inc. of Los Angeles, Calif. have decided to cancel the National Truck and Trailer and Equipment Show that was to be held at the Pan Pacific Auditorium, Los Angeles. In making the announcement, the Council said that this cancellation was brought about because of the unsettled conditions, due to the national emergency.

(TURN TO PAGE 236, PLEASE)


THE Anthes LINE
NEW MIRRORS
4" x 8" rectangular head with heavy bracket and strut. Universal bracket for hinge or body mounting. Complete unit, No. 1270-S as shown here with the patented Anthes 1201 Strut.
Mirror rides in rubber. Full rubber channel prevents steel to glass contact anywhere. Reduces breakage and is waterproof, dust-proof. Mirror glass is easily replaceable. Anthes round and rectangular heads both use this principle.
Rugged fender mounting mirror, available with five inch (No. 1285) or six inch (No. 1286) head.
These new Anthes mirrors are designed and made to be worthy members of the Anthes line. Extra ruggedness and longer service are the result of these extra features: 1. The glass rides in soft, embracing rubber at all contact points. 2. Improved heavy steel brackets — universal for hinge or body mounting. 3. Equipped with the patented Anthes strut arm. On your next order for Anthes Safety Equipment include Anthes mirrors, too. They will serve you well. Write today for the new Anthes catalog.
ANTHES FORCE OILER CO. FORT MADISON, IOWA
Anthes THE FIRST LINE OF SAFETY
. . . and proud to serve the safest drivers on the road!

Associated Transport DELIVERS THE FREIGHT

Firestone TIRES DELIVER THE MILEAGE

"Faster shipping is the number one item with us, because it enables our customers to operate on smaller inventories and get up-to-date merchandise on hand quickly. In order to give fast service and maintain a profitable operation, we have to keep tire costs at the absolute minimum. We have found that Firestone Tires deliver extra long mileage which means low cost mileage."

G. S. GREENLEAF,
Director of Maintenance
Associated Transport, Inc.

THIRTY-TWO HUNDRED PIECES of equipment . . . traveling 75,000,000 miles . . . to deliver 2,600,000,000 pounds of freight — that's the 1950 operating record of Associated Transport of New York City.

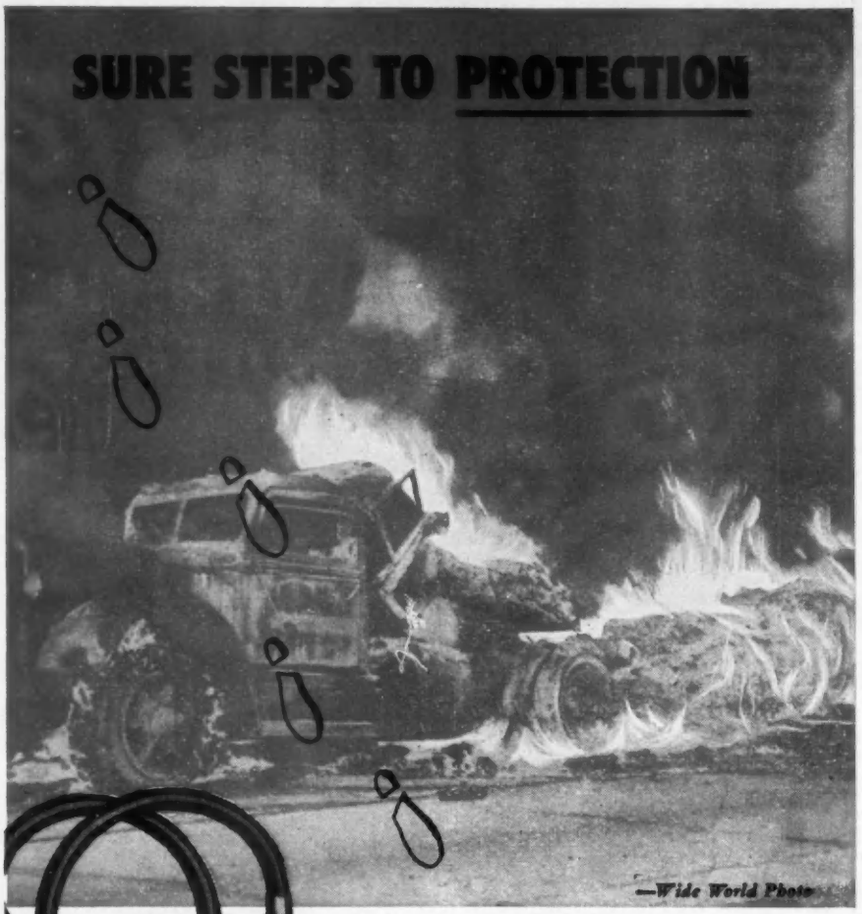
Firestone Tires play a big part in this operation because Associated Transport keeps an eagle eye on tire costs. An accurate up-to-the-minute record is kept on every tire on every one of the 32,000 rolling wheels on the Associated fleet. These records show that Firestone Tires deliver high original mileage and high retread mileage that add up to lower cost mileage for Associated Transport.

Today Firestone Tires are cutting costs for truckers in every type of hauling the country over. They will cut your tire costs — just give them a chance to prove it. Let your Firestone Dealer or Firestone Store show you how to get more mileage for your truck tire dollar.

Always Specify Firestone Tires When Ordering New Equipment

Listen to the Voice of Firestone on radio or television every Monday evening over NBC

Copyright, 1951, The Firestone Tire & Rubber Co.



This trailer-truck fried in fourteen tons of fresh creamery butter it was hauling near La Porte, Ind., when blaze spread from a small engine fire. Loss estimated at $35,000.

BUFFALO
better-built
Underwriters' Laboratories Approved
CARBON DIOXIDE EXTINGUISHERS
Portable units in 2½, 5, 10, 15 and 20 lb. sizes. Wheeled units in 50, 75 and 100 lb. sizes.

BUFFALO better-built

FIRE EXTINGUISHERS

In emergencies like the one above, quick action with Buffalo Carbon Dioxide Extinguishers can save lives and property. And "quick action" is easy when vehicles are equipped with Buffalo CO_2 Extinguishers. The Squeeze-Grip Valve is simple and quick to operate . . . simply pull the lock pin and squeeze! Clean, dry, odorless, inert gas under high pressure snuffs out flames in seconds.

Be sure your vehicles are "Buffalo" equipped. Consult your Classified Telephone Directory or write for your nearest Buffalo dealer.

BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO

Detroit Dispatch

Continued from Page 37

of the war and have had good results but the findings are not extensive enough to be conclusive.

Polarized Lights Again

Legislation to require polarized head lighting equipment on trucks and cars is under consideration in Massachusetts this year. Even if passed, however, it would not go into effect for a long time, possibly several years. A provision in the bill would require that it would not become effective until other states with an aggregate of 50 million population have passed a similar law. Vehicle manufacturers are opposing the measure on the ground that the system is unsatisfactory from the standpoint of cost to car and truck owners and also because it creates many problems for owners of vehicles not equipped with polarized lighting and for pedestrians who would be blinded. Under the proposal, the vehicles would be equipped with two complete lighting systems—polarized and non-polarized, the latter for passing and city driving. Other cars would require a viewing screen to prevent blindness when meeting polarized equipped cars. Other costly requirements of the polarized system are a 70 amp. generator, relays, heavier wiring, and quite possibly a much larger battery.

Price Formula Coming

Although trucks currently are under the general price regulation, it is believed that a special pricing formula may be developed later. The industry has been asked to submit nominations for representation on a Commercial Motor Vehicle Manufacturing Industry Advisory Committee.

Preferential Treatment

Evidence continues that trucks and replacement parts will get preferential treatment under any materials allocation orders. The recent steel order reducing consumption 20 per cent below the levels of a year ago do not apply to commercial vehicles or replacement parts. Jeeps, however, come under steel limitation.

END

Please Resume Reading Page 41

It's Habit-Forming

OLD MAID STENO: "I LOVE SAILORS."
SECOND OLD MAID STENO: "YOU SAY THAT EVERY WAR."

Army's New "EAGER BEAVERS" MAKE THE GRADE WITH HOLLEY CENTRIVAC GOVERNORS

As standard equipment on Eager Beaver Army Amphibious Trucks (built by Reo Motors, Inc.) the Holley Built-In Centrivac Governor proves itself on land and water—on rough terrain or incredibly steep grades.

It governs speeds perfectly—from full load to no load—gives smoother, steadier flow of power, responds instantly to every load and road contingency—without surging, choking or stalling. Engine accelerates perfectly with wide open throttle until governed speed is reached.

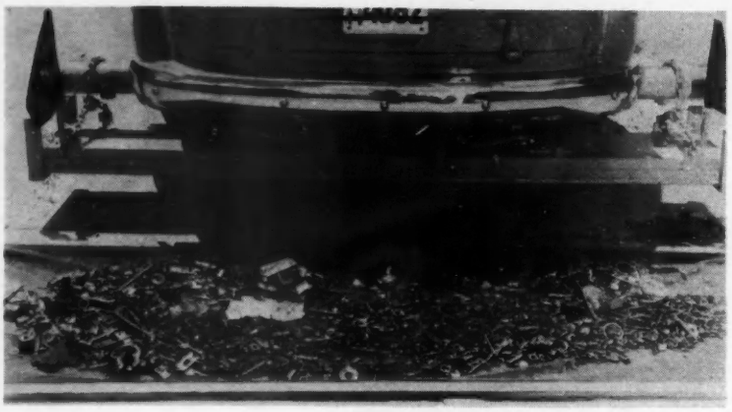
The Centrivac Governor eliminates power loss—improves economy—steps up operating efficiency—reduces wear and tear on driver's nerves.

Also available for standard truck engines as a sandwich type (to fit standard carburetors) or as built-in complete Holley Carburetor and Governor Unit. Write or wire for the facts on Centrivac—the most advanced type of economical governor control yet developed.

HOLLEY Carburetor Co.

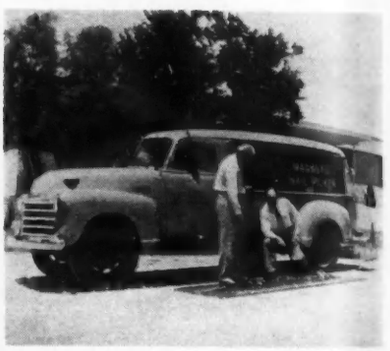
5930 VANCOUVER AVE.
DETROIT 8, MICHIGAN

AUTOMOTIVE EQUIPMENT AND ACCESSORIES



Texas Nail Magnet

Motorists along certain busy Texas highways can be quite sure they'll suffer no blowouts due to nails or other sharp metal objects on the road. The Texas Highway Department has recently put into service a mobile electromagnetic nail picker which will patrol the state's roads picking up bits of metal that might cause trouble.



Above Left: A collection of sharp steel sweepings of every variety culled from a single day's operation. Below: shows the unit equipped by the State for the sweeping job

A specially equipped Chevrolet truck, with a Kohler 5A1 Electric plant permanently installed in its canopy express body is the main piece of equipment Texas uses for its nail-picking operation. The truck has a heavy-duty 17-quart radiator for cool operation at slow speeds. Dual 7.00-18-rear tires, double-acting front and rear shocks, 4-wheel hydraulic brakes with hydrovac booster and several cab improvements aimed at increasing driver comfort were installed at the factory.

The two-leaf magnets, which ride low to the ground and are fastened under the rear bumper, were manufactured in Austin, Texas, from specifications supplied by the Texas Highway Department. Two sets of magnets were built, one being held in reserve for emergency use.

Electrical power for magnetization is supplied by the Kohler plant which has a 5000-watt capacity. It is gasoline fueled with a 32-volt starting battery. This automatic plant produces 60-cycle AC power and develops 1200 r.p.m. It weighs slightly over 1300 pounds.

Permanently Repair
DENTS, DINGS, SCRATCHES!

. . . with
FAST DRYING
Parko
MIRACLE
METAL

JOBBERS: We have always subscribed to the sales principle that the more you have to offer, the more you are going to sell; and with the great Parko line of no less than 52 automotive products to offer your prospects and customers, you just can't help doing a bang-up business!

PARKO MIRACLE METAL is a fast selling leader in this fastest growing line; calls for no heat or special equipment to PERMANENTLY REPAIR dents, dings or scratches and speed auto body work! It clings to the surface and stays put; drys harder than lead; sands, files and grinds to a slick feather-edge without cracking, peeling or checking; takes lacquer or enamel as neatly as the original surface!

WRITE NOW FOR DETAILS ON MIRACLE METAL AND THE PARKO PROFIT LINE.

Parko
World's largest manufacturer of rubbing and polishing compounds.
PARK CHEMICAL COMPANY
8074 MILITARY ★ DETROIT 4, MICHIGAN

When you buy Raybestos you buy greater safety

Insist on Raybestos Brake Blocks and PG Truck Sets—both factory-packaged with the right materials for every installation. Also insist on Raybestos Heavy Duty Clutch Facings. They are all *Proving Ground Tested.* Write us for the complete Raybestos Fleet Engineering Service—valuable technical data on brake block installation; practical information to give your fleet more efficient brake block results; specific fleet recommendations based on careful surveys.

Raybestos

Raybestos Division of RAYBESTOS-MANHATTAN, INC., Bridgeport, Conn.

AMERICA'S BIGGEST SELLING BRAKE LINING

RM

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Sealing Belts

. . . ALEXANDER MARKOWITZ, new general traffic manager for Helm's Motor Express Co., Pittsburgh, Pa.

. . . ROBERT F. COTNER, as district manager for DeLuxe Products Corp. in the Ohio area.

. . . JOSEPH E. KELLER, as adviser on Federal-State transport relations to the Defense Transportation Administration.

. . . HARRY D. MCPEAK, who will have his new office of sales manager of national accounts for Detroit Automotive Products Corp. in New York.

. . . C. C. HOBEK, as the Philadelphia branch manager of Highway Trailer Co. His assignment includes development of a new service department.

. . . WILLIAM A. BURNS, JR., vice president and sales manager of Trailmobile Co., Cincinnati. He will have charge of Trailmobile sales through its 29 factory sales branches throughout the country.

. . . H. A. HERMAN, as assistant district manager of International Harvester Co. motor truck division in Albany, N. Y.

. . . DONALD S. GRAHAM, new member of the sales development department of Commins Engine Co., Columbus, Ind. He is publications editor, a newly created office.

. . . E. M. BRADEN, the new sales supervisor of Dodge division of the Chrysler Corp. with offices in Detroit.

. . . DEWEY WAYNE, former consultant of the New York Motor Carrier Conference in Buffalo, N. Y., joined the Office of Price Stabilization where he will be chief of the Highway Division.

. . . KENNETH R. MACLEAN, as field sales manager of the automotive division of Crescent Co., Inc., Pawtucket, R. I.

. . . FRANK W. BESCHER, as assistant sales manager for the Fram Corp., jobber division in Ohio and Michigan.

. . . JOHN E. CARROLL, general sales manager of American Hoist and Derrick Co., is now vice president in charge of sales.

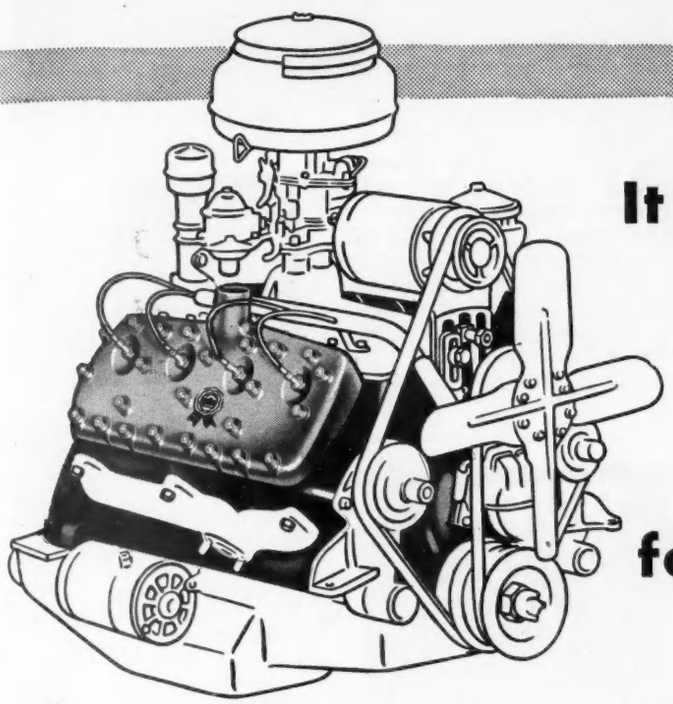
(TURN TO PAGE 176, PLEASE)

Like the rat above, improper tire inflation is insidiously destructive. Each year, wrong tire pressures from inaccurate gauges take an enormous toll in tire mileage.

The Eco Tireflator eliminates the guess-work of obsolete "inflate and test", steps up fleet service and *saves manpower*. The dial is set (5-110 lb. range), the chuck is applied and tires are quickly, automatically brought up to the exact pressure desired. Units are available in many different models which meet Grade A testing specifications of the American Standards Association.

Write for further details.

JOHN WOOD COMPANY
BENNETT PUMP DIVISION
MUSKEGON, MICHIGAN
JOHN WOOD Est. 1867



It pays to get the Right POWER for high-mileage Fords...

Authorized Reconditioned Ford Engines

Fuel Pumps, Distributors, Generators, Carburetors, Regulators, Starters, Brake Shoes

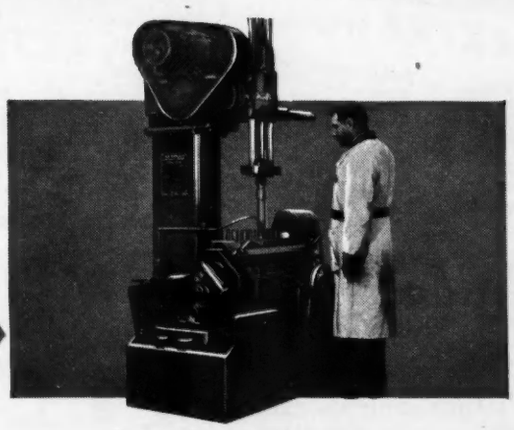
For performance that's guaranteed, repower with the *right* power—AUTHORIZED Reconditioned Ford Engines and Parts. When the AUTHORIZED Reconditioner's emblem is on the engine and parts you buy, you can expect this "Big Four" Value:

1. **Thoroughly rebuilt to Ford's hi-precision standards by an AUTHORIZED Reconditioner.**
2. **Genuine Ford Parts used throughout.**
3. **Engines rigidly block-tested and inspected.**
4. **Backed by the AUTHORIZED Reconditioner's guarantee for 4,000 miles or 90 days, whichever occurs first.**

To keep your Ford running better, longer, you'll find it pays to get the best—the completely rebuilt Ford Engine, or any part identified by the AUTHORIZED Reconditioner's emblem. Start saving gas and oil *now*. Your Ford Dealer can show you how little it costs.

Ask your Ford Dealer or Independent Garage for the engine that bears this emblem—it's your assurance of quality and value.

Typical of the quality workmanship that assures the long life of AUTHORIZED Reconditioned Ford Engines is the precision honing process shown here.



FORD Division of FORD MOTOR COMPANY

Introducing . . .

Continued from Page 174

. . . BEN MARTIN, appointed district manager of the mid-southwestern states for Walker Mfg. Co. of Wisconsin.

. . . CHARLES S. WIGGINS, former advertising manager of Armed Forces Weekly now assistant manager of the Washington office, Borg-Warner Corp.

. . . WILLIAM STOCKING, as assistant sales manager in the jobber division of Fram Corp., Pacific coast zone.

. . . Branch managers for Fruehauf Trailer Co. recently appointed include: Edward G. Mosher at Pittsburgh, Pa.; H. J. Gilsdorf at South Kearny, N. J.; Harry C. Rice at Charlotte, N. C.; Walter R. Pavela at Sacramento, Calif.; Walter P. Quinn at Salt Lake City, Utah; F. K. Bliss at Boston; L. G. Crayton at Phoenix, Ariz.; Amos H. Kirskey at Oakland, Calif.; S. K. Porter at Los Angeles, Calif.; and Marvin G. Holm, at the Spokane, Wash. branch.

. . . THOMAS K. MORGAN, office manager of the Philadelphia district sales office of Seiberling Rubber Co., replacing A. A. Fuller who retired March 1.

. . . PHILIP J. MORAGHAN, recently appointed to the position of manufacturing manager of GMC Truck and Coach Div.

. . . STANLEY W. WASIL, formerly national business manager for Packard Motor Car Co., now assistant regional manager of Willys-Overland Motors. His territory includes the middle-Atlantic states and New England.

. . . KEITH CONGDON as sales representative in Indiana and Western Kentucky, for Walker Mfg. Co. of Wisconsin.

. . . D. R. COLLIN, as vice president in charge of labor relations and personnel for Mack Mfg. Co.

. . . GLEN W. BUSE, St. Paul, Minn.; A. V. HOWE, So. Kearney, N. J.; C. L. SARGENT, Boston, Mass.; M. J. MACQUARRIE, Buffalo, N. Y.; F. L. BROWER, Birmingham, Ala.; V. H. ROSSMAN, Philadelphia, Pa.; and H. R. SHAPAUGH, Dallas, Tex., appointed district sales managers of Fruehauf Trailer Co. in the cities mentioned.

. . . HERMAN O. WIEGELMAN, who is now manager of the new Milwaukee branch of Mutual Truck Parts Co. He was formerly the purchasing agent for that firm for a period of seven years. The new branch is located at 2460 W. Claybourn St.

. . . FLOYD R. PRITCHARD, recently appointed vice president and general manager of Johnson Freight Lines, Inc., Chattanooga, Tenn.

. . . HAL FRYER, midwest regional sales manager of Aro Equipment Co. and Harold J. Hill, as eastern regional sales manager. Both men are specialists in automotive lubrication equipment.

. . . DONALD W. MOFFITT, assistant service manager for the Northeastern region of Ford Div., Ford Motor Co., 445 Park Ave., New York.

(TURN TO PAGE 178, PLEASE)

ECHLIN HEAVY DUTY
Ignition Contacts
FOR HEAVY DUTY FLEET SERVICE
Careful and exhaustive tests have been made to determine for you which Trucks and Cars in Fleet operations should be equipped with HEAVY DUTY Contacts. ECHLIN has the answer and the precision-built Contact replacements to give you extra performance and extra contact life. Ask for the facts and get your copy of the new ECHLIN Truck & Bus Electrical Parts catalog.
EXTRA TUNGSTEN LIFE
Mirror-finish Tungsten retards collection of dirt . . . guards against arcing, pitting and oxidation.
EXTRA CONDUCTIVITY
Assured by copper Conductor Strip, standard on EVERY ECHLIN Contact.
EXTRA SPRING LIFE
Full-floating Spring reduces breakage and bushing wear . . . insures perfect alignment.
EXTRA PRECISION
ECHLIN tolerances are the closest known to the industry . . . ECHLIN precision a famous EXTRA!
ECHLIN Ignition
A PRODUCT OF ECHLIN
CONTACTS
COILS • CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS
ECHLIN MANUFACTURING COMPANY
234 EAST STREET • NEW HAVEN 5, CONN.

Great Dane

FOODS *Must* MOVE . . .

In war or peace, perishable foods must be trucked to markets quickly, economically and without spoilage.

Despite increasing material shortages and the conversion of some facilities to defense production, Great Dane Aluminum Frozen-Food Vans are still available . . . and still incorporate all the tremendous Great Dane advantages in engineering and workmanship.

Today, more than ever, you need the amazing durability, load capacity and economy built in every Great Dane.

Today, more than ever, Great Dane is your best dollar-for-dollar trailer value.

ORDER FROM YOUR GREAT DANE DEALER NOW!

Aluminum Dry Cargo, Freight Vans and Produce Vans also available

GREAT DANE *Trailers*

THE STEEL PRODUCTS CO., INC.

SAVANNAH, GEORGIA

Introducing . . .

Continued from Page 176

. . . ARTHUR A. SHERMAN, assistant zone manager of New York, Pennsylvania, New Jersey, Maryland and Delaware for the Fram Corp. of Providence, R. I.

. . . VINCENT L. BENTON, assistant zone manager of Indiana, Illinois, Wisconsin, Michigan, Minnesota, Iowa, South Dakota, and North Dakota territory for Fram Corp. of Providence, R. I.

. . . HENRY ROWOLD, in his new appointment as manager of Mack's Distributor Sales Division. This includes all of the United States, Canada and Mexico.

. . . GEORGE J. CAMPBELL, president of the Campbell Chain Co., York, Pa., has been elected president of the Manufacturers Ass'n. of York.

. . . R. W. BRISKY, new representative of Electric Products Co., in Grand Rapids, Mich.

. . . GILBERT F. STENGER, fleet sales manager of truck tire sales department of the B. F. Goodrich Co., Akron, Ohio.

. . . J. B. WHARTON, JR., vice president and treasurer of Trailmobile Co., Cincinnati, Ohio, has been reelected to that position.

. . . ALFRED M. SIMBRO, Philadelphia district manager for Turco Products, Inc., replacing S. B. Hewlings.

. . . DANIEL T. BUIST, new national sales director of Turco Products Inc., replacing Louis H. Moulton. Mr. Buist has appointed Stuart B. VanDyne as his administrative assistant, and Daniel T. Miller as coordinator of sales, both newly created positions.

. . . SYDNEY T. ELLIS, assistant to the president of Commercial Solvents Corp., New York.

. . . A. L. WHITON, new president of Wirebound Box Manufacturers Assn. at its annual meeting in New Orleans.

. . . LOUIS P. FAVORITE, manager of Aluminum Co. of America's New York district sales office, succeeding Edward B. Wilber who has been elected president of American Lumber & Treating Co. at Chicago.

. . . FRANK PUSEY, recently assigned as automotive service representative of the Eastern district office of DuPont's Petroleum Chemicals division with headquarters in New York.

. . . SAMUEL T. SHOCKEY, as terminal chief of Strickland Transportation Inc., Dallas, Tex.

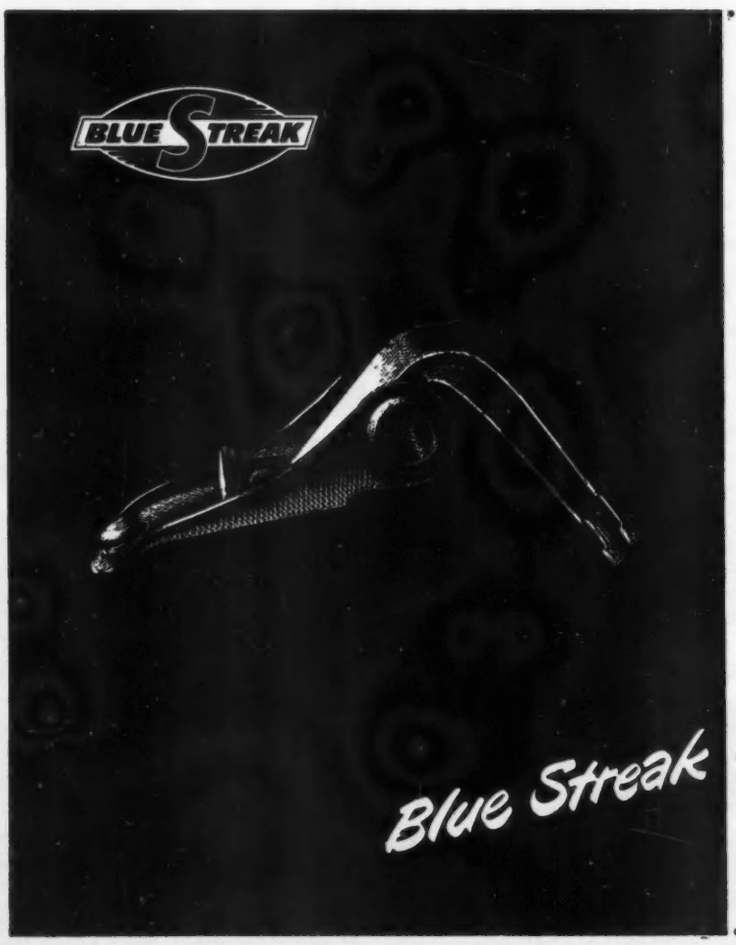
. . . L. A. ODOM, president of the Associated Petroleum Carriers, Spartanburg, S. C., who was recently appointed general counsel for the National Tank Truck Carriers, Inc.

. . . JERRY HENNESSEY, as Chicago terminal manager for Mid-States Freight Lines.

. . . JAMES MCD. GILLAN, assistant traffic manager of Super Service Motor Freight Co., Inc., Nashville, Tenn.

. . . EUGENE J. COTTER, new president of H. J. Korten, Inc., motor carriers, of Pelham Manor, N. Y.

(TURN TO PAGE 180, PLEASE)



When a contact or a coil or a voltage regulator on one of your vehicles conks out on the road, it costs expensive dollars, plus a lot of aggravation. It costs you only a few extra pennies to use a premium quality ignition part, like Blue Streak, but it's the best insurance you can get against premature ignition trouble. (P.S. — you may find that Blue Streak parts are a little harder to get these days, because premium grade raw materials aren't always available, but you'll be glad you made an extra phone call when you get the real thing.) Standard Motor Products, Inc., L. I. C. 1, N. Y.

HASTINGS USES CHROME
where it does the most good
...ON THE OIL CONTROL RINGS

RIGHT FOR ★ RE-BORE ★ RE-RING ★ RE-SLEEVE

It's the oil control rings that usually determine the life of any set of piston rings. That's why Hastings adds chrome on the vital oil rings, where it does the most good.

For more than four years this Hastings engineering principle has been proved by amazing performance records. Users report three and four times conventional ring life—and under severe operating conditions.

Under *any* operating conditions, you'll get greater resistance to scuffing, less cylinder wall drag and longer life from Hastings Chrome Sets. Install them on your next heavy duty re-bore, re-ring or re-sleeve job.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
Hastings Ltd., Toronto

HASTINGS STEEL-VENT PISTON RINGS

CHROME-FACED FOR HEAVY DUTY SERVICE

Kester Solder

Kester Acid-Core Solder is made only from the finest grades of tin and lead commercially available. The tin-lead content was established by the trade as the alloy that would give the best results.

Dependable Quality

The same top quality year after year. Kester Solders-acid-core, special radiator flux-core, rosin-core and other solders—can be relied upon to do the job right.

Saves Time

The boys back shop will not consider anything but Kester. They know it is faster and easier to use . . . makes the best solder bonds.

KESTER SOLDER COMPANY
4201 Wrightwood Ave. • Chicago 39, Illinois
Newark, New Jersey • Brantford, Canada

Send for free booklet: "Expert Soldering Made Easy"

KESTER SOLDER

The Mechanics Standard since 1899

Introducing . . .

Continued from Page 178

. . . RICHARD E. MUNCOVAN, Southern regional sales manager of Inland Steel Container Co. with offices in New Orleans, La.

. . . JOHN H. MIDDLEKAMP, specialist and consultant for the street and highway division of the Defense Transportation Administration.

. . . WILLIAM F. FARRELL, former superintendent of El Paso City Lines, has taken over operation of the Santa Fe City Bus Co., Santa Fe, N. M.

. . . E. C. (AL) KRUEGER, superintendent of equipment of Indianapolis Railways Inc.

. . . WILLIAM D. PAWLEY, president of Miami Beach Railway Co., has been appointed a special assistant to Secretary of State Dean Acheson.

. . . Changes recently in administration of E. I. du Pont de Nemours and Co., Wilmington, Del., include: Retirement of Clarance W. Clark, manager of the Chicago plant; appointment of H. Roy Ayres to that position; Louis S. Baker becomes assistant plant manager at Philadelphia; Norman I. Dress becomes assistant plant manager at Parlin, N. J.; Carrol A. Doran becomes the new assistant plant manager at Chicago.

. . . JOSEPH HART, manager of the metal processing sales division of Turco Products, Inc.

. . . EVERETT A. UTECHT, as assistant chief engineer, Davey Compressor Co., Kent, Ohio.

. . . THOMAS G. JUDD, appointed advertising manager of Thermoid Co., Trenton, N. J.

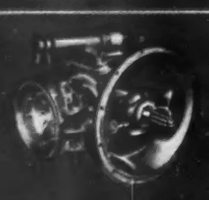
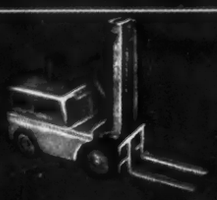
. . . The appointment of two Cummins sales executives as direct factory representatives to governmental agencies is announced by Cummins Engine Company, Inc., at Columbus, Indiana. C. B. Foster (left) will head a new department of the sales division as manager-contract sales. John W. Post (right) has been named regional manager of the newly created Washington, D. C., region.

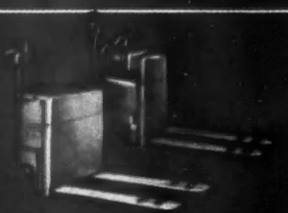
(TURN TO PAGE 183, PLEASE)

Make your prod a "great lead

by working

CLARK



SEE
NEXT PAGE
FOR MORE ABOUT
CLARK PRODUCTS

CLARK EQUIPMENT COMPANY, Buchanan, Michigan

Other Plants: BATTLE CREEK, JACKSON, MICHIGAN

A "Big Bruiser" for Biggest Jobs

the new CLARK YARDLIFT-150

HANDLES 15,000-POUND LOADS

There has been an increasing demand for a pneumatic-tired fork truck big enough to handle the "whopper" loads—and here it is: the Clark Yardlift-150.

Where To Use It

In outdoor handling of huge loads—

- **lumber and numerous other big and extremely heavy items in material supply yards**
- **in storage yards of steel plants and warehouses, body plants and similar installations**
- **in stevedoring operations**
- **for all fast, safe handling of extra-heavy loads over rough surfaces**

EASY TO MANEUVER—compactly designed for minimum turning radius; handles easily, rides comfortably.

HEAVY CONSTRUCTION—larger, heavier uprights; stronger frame; ample reserve strength in all vital parts.

WIDER AXLE—maximum stability assured by the driving axle of full standard width for commercial vehicles.

HOW TO GET THE FACTS—You'll want full information on this new addition to the Clark-engineered Leadership Line. A request on your business letterhead will receive prompt attention.

CLARK ELECTRIC AND GAS POWERED **FORK TRUCKS**
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION · CLARK EQUIPMENT COMPANY · BATTLE CREEK 16, MICH.
Please send me further information on the Yardlift 150

Name_____
Firm Name_____
Street_____
City_____ Zone____ State_____

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

PRODUCTS OF CLARK—TRANSMISSIONS · FORK TRUCKS & TRAC
TORS · AXLE HOUSINGS · GEARS AND FORGINGS · RAILWAY CA
TRUCKS · ELECTRIC STEEL CASTINGS · AXLES · TRACTOR UNIT

Introducing . . .

(Continued from Page 180)

...W. W. WARNER, as vice president in charge of engineering of the Davey Compressor Co., Kent, Ohio.

...WILLIS J. KEENAN, general manager of Woodhouse Chain Works, Trenton, N. J.

...WALTER G. ABBOTT, the new factory representative in the San Francisco region for Federal Motor Truck Co.

. . . EDWARD P. LETSCHER as regional manager of the Philadelphia region of the Dodge Division, Chrysler Corporation.

...C. L. LANCASTER, manager of the Sharonville, Ohio, plant of the Electric Auto-Lite Co. is now a vice president of that firm.

...THUR SCHMIDT, recently appointed assistant to the president, Ingersoll Products Div., Borg-Warner Corp.

...E. C. IVERSON, new chief engineer at Towmotor, Cleveland, Ohio.

...FLOYD C. DAY, recently appointed to the public relations staff of the American Trucking Associations, Inc.

...ROBERT M. FOX, divisional sales manager for the Detroit division, Kindall Refining Co. of Bradford, Pa.

...DAVID H. HARRIS, new assistant advertising and sales promotion manager for Burndy Engineering Co. of N. Y.

...HENRY G. TARTER, as general manager of the Hamilton Division, Bendix Aviation Co.

. . . THOMAS HALLOWELL, JR., the new president of Standard Pressed Steel Co., Jenkintown, Pa.

. . . HARRY F. DAVIS, new district manager of equipment sales, Detroit area, for Champion Spark Plug Co.

. . . JAMES R. HITT, as manager of the factory branch of The Trailmobile Company in Newark, N. J.

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...HAROLD G. INGERSOLL, as vice president of Borg-Warner Corp., Chicago.

...W. W. JOHNSON as assistant manager of International Harvester Co.'s Des Moines, Iowa, motor truck district.

...S. A. ARMENTROUT, the new eastern regional manager of Automotive Products Corp., Detroit.

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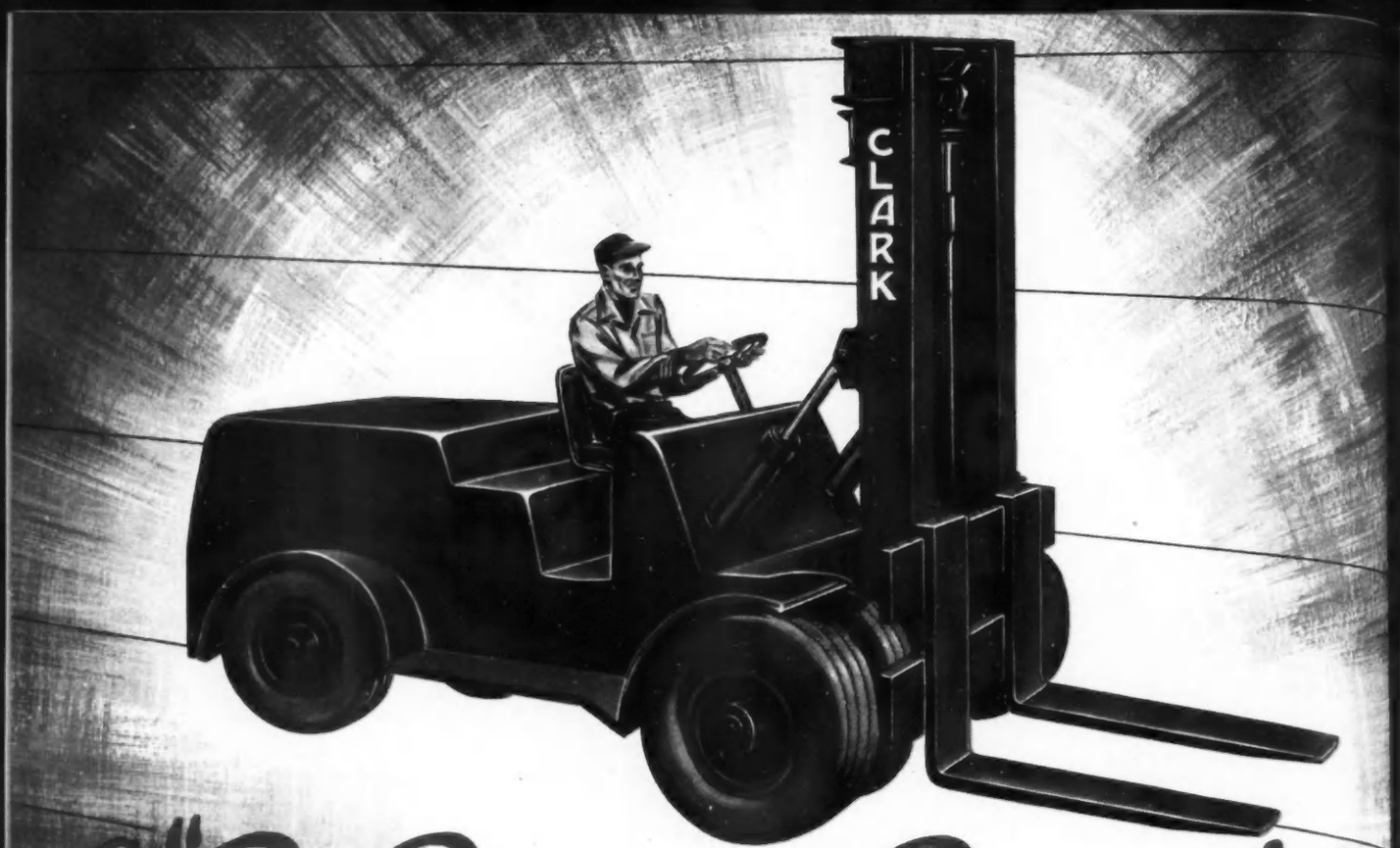
...JOHN E. NOLL, as regional manager of the Oklahoma City region for the Dodge Division, Chrysler Corp.

. . . RICHARD E. DUVAL, Eastern divisional manager representing Hastings Piston Rings and Casite in the New England states.

...CLARENCE P. HOTTLE, as vice president of Pacific Motor Trucking Co.

. . . W. Y. CALDWELL, the new district manager of Champion Spark Plug Co. district in the Southwest.

Work RIGHT
WITH
CENTRAL
MIKE
CENTRAL MIKE saves time and money for auto mechanics—that's why you'll find CENTRAL Certified Accuracy MICROMETERS in auto repair shops everywhere. The Central line is complete: there's a Central Micrometer or set of Micrometers for every need . . . for every pocketbook.
See your jobber or write for new Catalog 30.
Set No. 745RL Outside Micrometers. Range: 0 to 4". Four micrometers with ratchet stops and locknuts; also standard test gages in deluxe plush-lined case.
Main Journal Micrometer No. 510MBM Range 0 to 5". Measures journals without removing crankshaft from engine.
Set No. 808 — Inside Micrometer. Range: 1½" to 8". Complete with extension handle in deluxe plush-lined case.
THE CENTRAL TOOL COMPANY
474 Wellington Ave.
Cranston 10, Rhode Island
CENTRAL
Certified Accuracy
MICROMETERS
LARGEST SELLING MICROMETERS IN THE AUTOMOTIVE FIELD, THROUGHOUT THE WORLD



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- **for all fast, safe handling of extra-heavy loads over rough surfaces**

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HEAVY CONSTRUCTION—larger, heavier uprights; stronger frame; ample reserve strength in all vital parts.

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PRODUCTS OF CLARK—TRANSMISSIONS · FORK TRUCKS & TRAC-
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CENTRAL MIKE saves time and money for auto mechanics—that's why you'll find CENTRAL Certified Accuracy MICROMETERS in auto repair shops everywhere. The Central line is complete: there's a Central Micrometer or set of Micrometers for every need . . . for every pocketbook.
See your jobber or write for new Catalog 30.

Set No. 745RL Outside Micrometers. Range: 0 to 4". Four micrometers with ratchet stops and locknuts; also standard test gages in deluxe plush-lined case.

Main Journal Micrometer No. 510MBM Range 0 to 5". Measures journals without removing crankshaft from engine.

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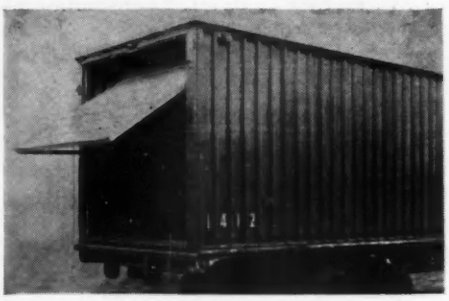
THE CENTRAL TOOL COMPANY
474 Wellington Ave.
Cranston 10, Rhode Island

CENTRAL Certified Accuracy MICROMETERS

LARGEST SELLING MICROMETERS IN THE AUTOMOTIVE FIELD, THROUGHOUT THE WORLD

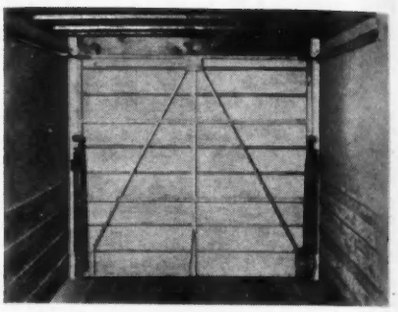
Overhead Trailer Door



Trailer Door Raises Into Roof

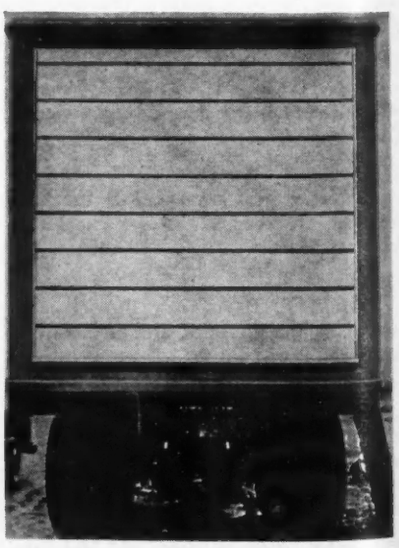
An old idea with a new product has been put to use in the trucking industry by R. L. Taylor National Sales, Inc., Detroit, Michigan. Garage door manufacturers have tried several times in the past ten years to apply their products as closures for the back of trailers and trucks.

Taylor-made doors for trucks and trailers fit between the posts and recede completely into the trailer when opened. The hardware mechanism is spring operated, and the door can be adjusted to open with "finger-tip" operation. There are two disadvantages to this type of closure. A small amount of loading space is lost at the top of the truck or trailer due to the way the door recedes into the opening. Secondly, posts are necessary for this type of installation.



Some loading space is lost at the top

Advantages claimed for the Taylor-made door include: (1) The truck or trailer can be backed up to the dock without opening the doors, (2) nothing protrudes from the side to catch on other equipment, (3) approximately 50 per cent saving in original cost, (4) easy operation, (5) eliminates costly repairs, and (6) the favorable reaction of the drivers. The feature which makes the door adaptable for this type of closure is the fact that it opens out from the load, thereby eliminating much the possibility of the load jamming the door closed.



Door is opened at loading platform

Model N109

Model N107

Model N260

A good signal deserves a good switch. Arrow's N260 is the finest on the market! Built-in flasher, built-in fuse protection, positive proof indication that lights as well as switch are functioning. Unconditionally guaranteed!

New Arrow Class "A"
DIRECTIONAL SIGNALS

The Arrow Class "A" Directional Signals shown above have 4-inch amber sealed-beam units. Baked-on black enamel finish. Available for 6 or 12 volt systems. Model N107 can be mounted on the fender or on the rear of truck or tractor. Model N109 has a recessed body for flush mounting.

See your jobber salesman today for Arrow Directional Signals and the complete line of Arrow *Safety After Dark* Equipment.

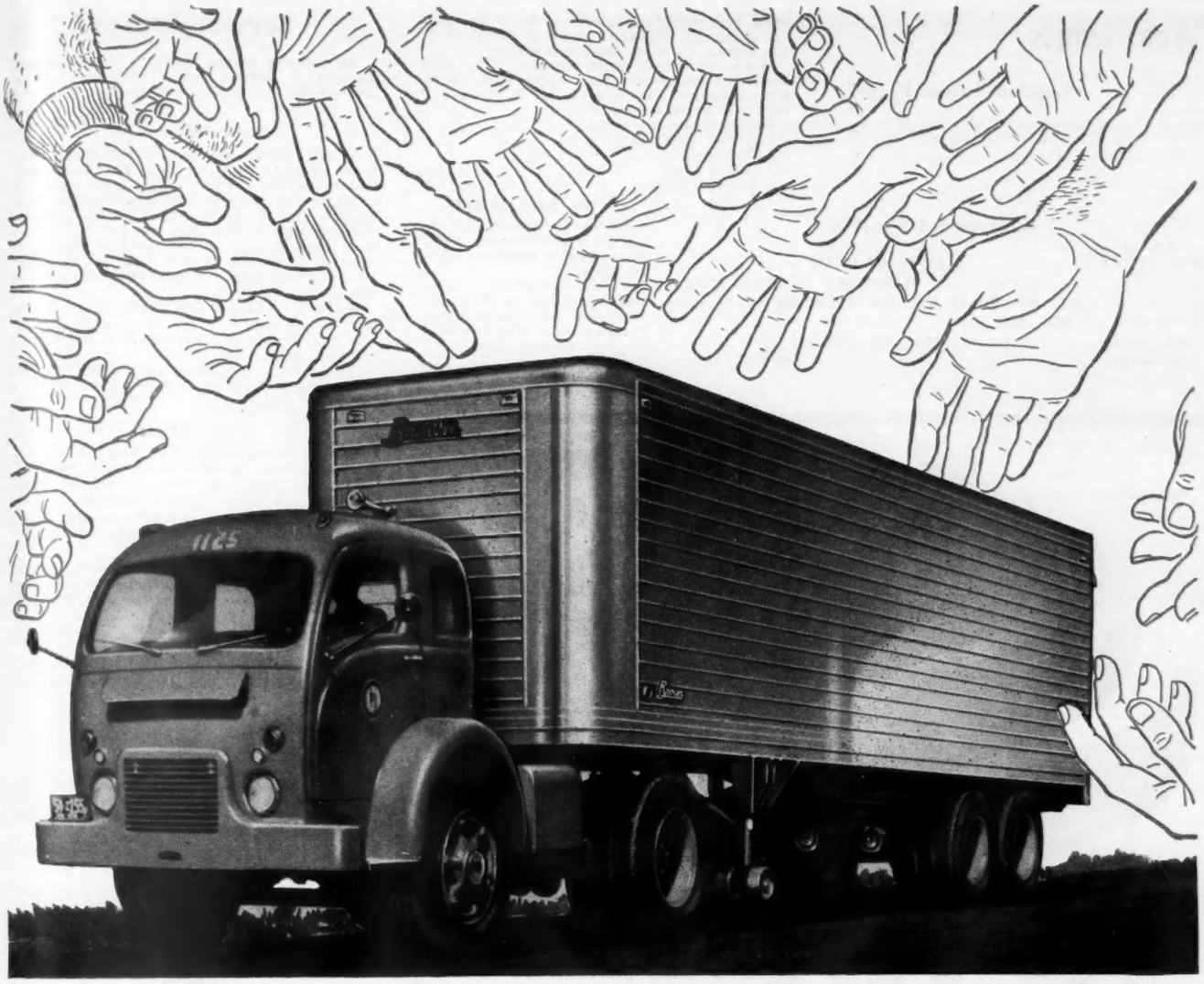
Here's a Complete Class "A" Kit

Arrow Kit No. 12 gives you everything you need for the latest approved protection. 2 N107 signals, 2 N109 signals, 1 N260 switch.

safety after dark

ARROW

Arrow Safety Device Company
Mount Holly, New Jersey



The nation's motor freight carriers need the *Best*

You have a tremendous job to perform — now more than ever the country needs your service. Your old customers want continued fast dependable freight transportation. New customers are relying on you to keep them supplied with raw material — to get their goods directly to market.

You not only need the best — you want and demand the best in motor freight equipment. You have to have it to do the job — to make a profit — to give old and new customers the service they expect.

As trailer manufacturers it is our job to help you in whatever way we can with your problems in motor freight transportation. You are sometimes the target of unfair propaganda. You are concerned with replacements, repairs, parts, manpower. You need all the cooperation you can get to keep rolling efficiently — to keep on giving everyone real transportation service any time, anywhere to any place.

It is our job to know your problems — to find out your needs — the job of our engineers to design and develop those needs into trailers — trailers of highest quality and real value — trailers for tops in profit and performance. To serve you and help you is our business.

Brown ALUMINUM TRAILERS

BROWN TRAILERS, INC.,
Toledo, Ohio • Spokane, Wash.

Wear Limits

Continued from Page 70

lowed by comparatively smooth action of the dwell side of the cam, with valve bouncing in closing. Maintain original equipment operating conditions.

Watch and adjust tappet clearance. Too much clearance causes broken tips, broken locks, broken stems under head, burned valves due to bounce, and extra wear on cam and tappets.

Insufficient clearance causes:
- Holding open
- Burning
- Loss of power
- Loss of economy

Valve Seat Inserts

For best performance, the recess for valve seat inserts should be bored smooth square and flat on the bottom.

The sizes should be measured accurately to give the interference fits as shown here. Too much press fit causes just as much trouble as too little. Likewise, accuracy is a prime requisite.

Recommended Press Fits

O.D. OF SEAT INSERT	DEPTH OF INSERT								
	¼—⅜			3/8—9/16			9/16—11/16		
	Max.	Min.	Desired	Max.	Min.	Desired	Max.	Min.	Desired
1 in.—2 in.	.004	.002	.003						
2 in.—3 in.				.005	.003	.004			
3 in.—4 in.							.006	.004	.005

CHANNEL TYPE CONSTRUCTION

Flexible tooling and equipment assure economical prices and PROMPT DELIVERY on small or large quantities of Body-Gard Bumpers. They are available for the front and rear of all types of trucks, truck bodies, buses, coaches and all other commercial vehicles.

Send for further information explaining how easy it is to order custom-built bumpers to your exact specifications.

5 FACE WIDTHS:
3½", 4½", 5½", 6" and 6⅝" wide

3 STYLES:
REGULAR—With 3⅜" end form
FULL—With end form up to 7½"
WRAP AROUND—End form as deep as required

NASH TIRE CARRIERS
Cable Lift Carriers available in Under Frame, Side Mount and Frameless Types. Slant Basket Carriers, universal for any rim or any make of steel wheel.
For replacement or original equipment write for folder.

NASH BROS. COMPANY
PAYNE STREET and DEWEY AVENUE, EVANSTON, ILLINOIS

Service Brakes

The following working limits for better operation and care of Lockheed, Huck, Bendix and Two-shoe cam operated brakes, are recommended:

Brake Drums

Do not cut drum wall on cars, light trucks, heavy trucks and busses more than 20-25 per cent of manufacturer's original thickness. When drums are heavily loaded, caution should be used in cutting down drum thickness due to squeal and distortion problems. Thickness refers to drum body only and does not include flanges or ribs. Drums should be discarded if deflection in diameter is more than .060 in. under full brake, application. Diameter should be concentric with hub within .010 in.

SURFACE—Refinish if heat checked or scored more than .010 in. deep.

TAPER—Refinish if barrel shaped or bell-mouthed more than .010 in.

SHIM STOCK or oversize lining should be used to compensate for material removed from drums.

Brake Shoes

ANCHOR ENDS—Bendix shoes should be repaired or replaced if anchor radius is enlarged or bent.

RIM—Shoes should be repaired or replaced if rim is out of round, out of square or distorted.

WEB—Shoes should be repaired or replaced if rim to web weld is broken as this causes excessive rim flexing resulting in uneven lining wear.

ROLLERS—Discard rollers that are worn, particularly if a flat spot is present on outside. Discard cam follower plates if grooved by the cam more than .015 in.

Bushings

ANCHOR BUSHINGS should be replaced if worn more than .008 in. Anchors should be fitted and bushings accurately reamed.

Anchors

PINS: Anchor pin on the Huck brake is non-adjustable type, renew anchor if worn more than .008 in. On the two-shoe cam operated brake and the Lockheed brake, renew anchor pins, or rebush shoes if worn more than .008 in.

Links

ARTICULATING LINKS must be rigid and hold the shoes without side play. Examine buttons and button springs and renew if bent or worn. Applies to Huck brake only.

Springs

All weak pull back springs should be replaced.

Cam

On the two-shoe cam operated brake, camshaft should be renewed and bracket rebushed if worn more than .025 in.

Backing Plate

Repair or replace warped, bent or loose backing plates. Lubricate backing plate ledges.

Hydraulic Systems

WHEEL CYLINDERS—Dismantle and examine at each reline or if leaks are present. Renew pistons if scored, sticking or worn more than .005 in. Cylinder walls should be honed if scored. If, after honing enough to remove all scores, the "no-go gauge" will enter, wheel cylinder should be replaced. Renew all rubber cups.

Master Cylinders

CHECK VALVE—Residual line pressure should be 7 to 12 lbs. per sq. in. Renew check valve if spring is rusty or seats are worn in spring type, or if rubber cup or rubber seat are worn or distorted in metal cage type.

PRIMARY AND SECONDARY CUPS—Replace cups if distorted or edges are rounded.

MAIN SPRING—Replace spring if weak or rusty.

PISTON—Renew if scored or worn more than .005 Make sure ports and filler cup vents are open.

CYLINDER WALLS should be honed if scored. If, after honing enough to remove all scores, the "no-go gauge" will enter, master cylinder should be replaced.

Brake Lining

LINING should be replaced when worn within .010 in. of rivet head on passenger cars and light trucks and within 1/32 in. of bolt head on heavy trucks and buses. In the case of bonded linings, which are rapidly coming into the picture, lining should be replaced when worn to a minimum of .020 in.

(TURN TO PAGE 188, PLEASE)

MORE

STOPS

ON A PENNY

American Brakeblok

REG. U.S. PAT. OFF.

BRAKE LINING

Your toughest runs prove the superiority of American Brakeblok Brake Lining—more mileage—better stopping ability—less adjustment and maintenance costs.

That's why leading bus and truck operators prefer American Brakeblok. It gives them more stops on *their* penny. It will do the same on your equipment.

Quickly available from your nearby NAPA jobber and warehouse.

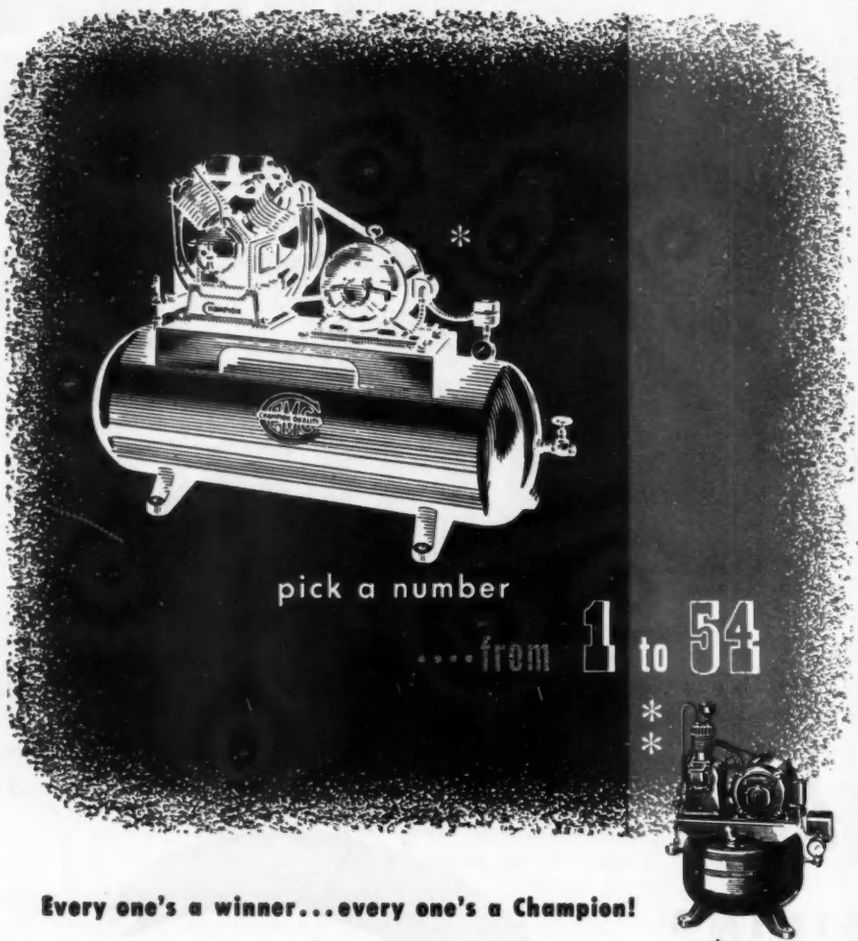
AMERICAN Brake Shoe COMPANY

AMERICAN BRAKEBLOK DIVISION
DETROIT 9, MICHIGAN

Wear Limits Continued from Page 186

Eaton Front and Rear Axle

PARTS	SPECIFIED FIT OF CLEARANCE	SERVICEABLE AFTER WEAR
Gear mesh, bevels—backlash	.008 to .015	.018
Herringbone mesh—backlash	.010	.015
Gear mesh—differential backlash	.010 max.	.015
Bearing fit—cones where free—Pinion End	.001 loose to .005 tight	Loose — .002
Bearing fit—cones where free—Housing Tube	.0002 to .0017 loose	Loose — .002
Bearing fit—cones where free—Front Axle inner wheel brg.	.0005 to .0015 loose	Loose — .002
Bearing fit—cones where free—Front Axle outer wheel brg.	.0005 to .002 loose	Loose — .003
Bearing fit—cups where free—Diff. Brgs. L.H. and R.H. Side	.005 tight to .0015 loose	.002
Differential side pinion and spider	.002 to .004 loose	.006
Side gear in differential case	.004 to .007 loose	.009
Internal gear idler pinion and pins	.0045 to .0065 loose	.009
King pin fit in I-beam	.000 to .0015 loose	.002
King pin fit in Knuckle bushings	.0005 to .002 loose	Loose — .003
Differential washers back of gear	.002 loose to .006 loose	Loose — .010



Every one's a winner...every one's a Champion!

Take your choice...pick any of Champion's 54 separate models of Air Compressors. You'll find every one a winner. All 54 incorporate the 21 extra features that make Champions famous for outstanding performance and operating economy. All are controlled to less than 600 rpm's for longer compressor life, smoother, cooler, quieter running. So pick a number from 1 to 54...any size from ¼ to 7½ h.p.—from single cylinder to four cylinders.

Whether your air needs are big or small — you'll find there's a Champion for all. You can be sure every one's a winner... every one's a Champion. When you think of Air Compressors, see your Champion Jobber FIRST!

Write TODAY for Your FREE CHAMPION Catalog! Pick your number from the 54 models described and illustrated.

Champion Pneumatic Machinery Co.
829 N. PLEASANT ST., PRINCETON, ILL.

CHAMPION AIR COMPRESSORS

* *Model OE-42-80, 5 h. p.—four cylinder* ‡ *Model U-6, ¼ h. p.—single cylinder* R5339

Spicer Brown-Lipe Clutch

Pressure Plate

Maximum free movement in driving slots—.015
Maximum fulcrum wear—1/32
Maximum depth of scores which permit salvage by regrinding—1/16
Maximum depth of scores permitting reinstallation without grinding—.005
Maximum out-of-flat permissible without regrinding—.007

Levers

To be scrapped if contact areas are pitted or grooved.

Release Sleeve

To be scrapped if total wear where levers contact is over—1/32
Clearance between bushing and shaft—maximum—.00

Spring

Per cent load loss permissible before scrapping—20%

Driven Plate

Replace if oil or grease on surface.
Replace when worn to rivet heads.
Replace if burned.
Maximum play in disc splines measured at periphery—1/8
If excessive spline wear occurs, check alignment between transmission and engine.
Maximum free play at periphery due to damper parts—1/16
(Scrap disc if more)
Permissible warpage:
(Use indicator) face runout—.010

Cover (Flywheel Ring)

Maximum total freedom of pressure plate in slots —.015

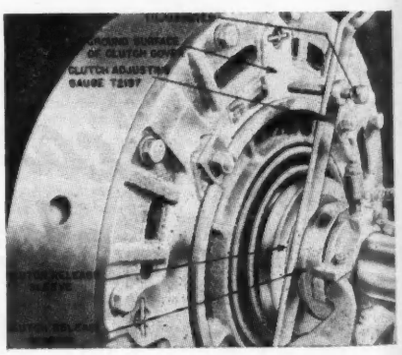
Release Bearing

Grease—High Temperature—B. & RB.
Adjustment—by turning castellated adjusting ring to correct free pedal travel.

Clutch Release shaft

Maximum play in bushings—.015

Lipe Rollway Adj. Chart

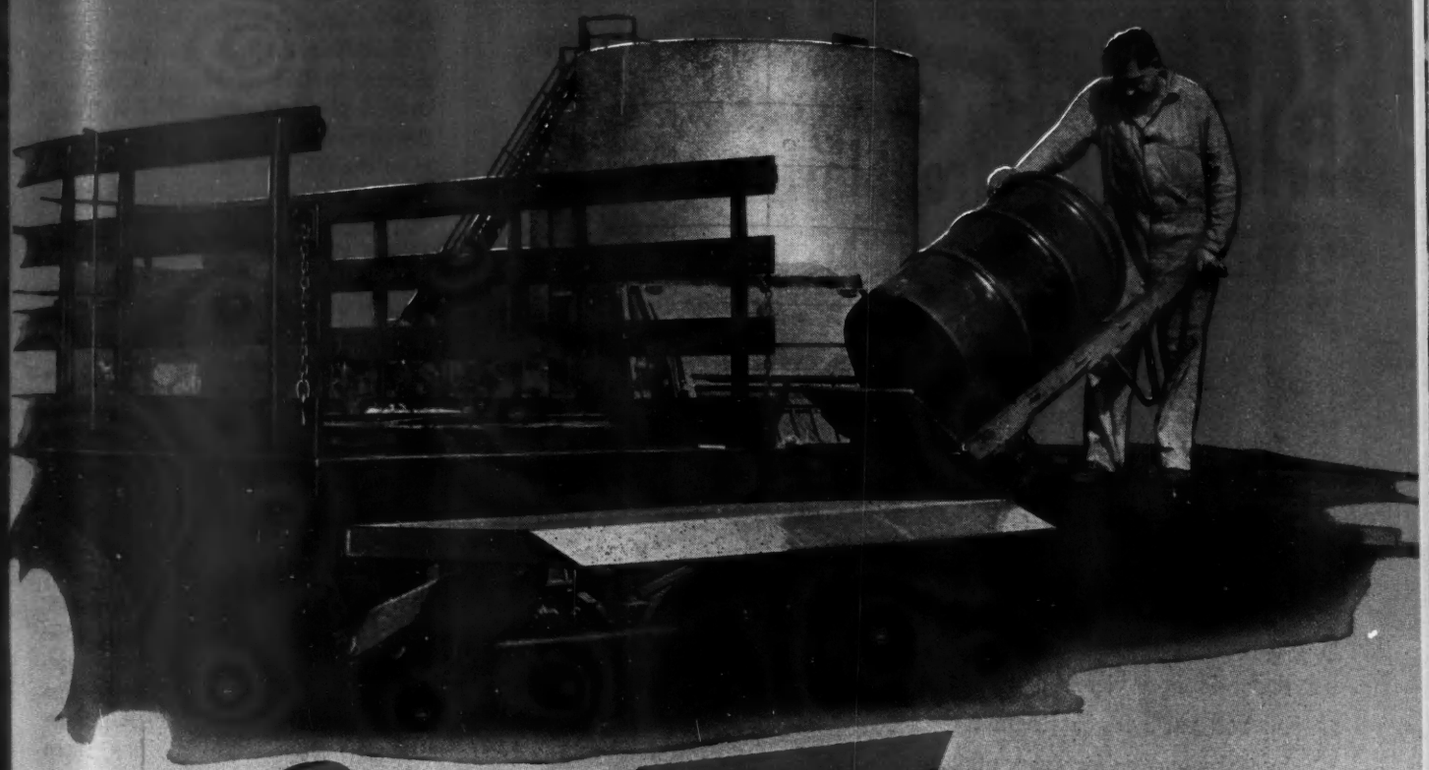


Model Number	Inch Size	Dimension "A"*	Quan. of Shims	Flywheel Depth	Facing Thickness
120-1-314	12	1"	6	1.920"	1/4"
140-1-089	14	1 1/16"	8	1.312"	1/4"
130-1-117	13	1 1/16"	8	1.500"	1/4"
140-1-116	14	1 1/16"	8	1.312"	1/4"
130-1-320 (1)	13	1"	6	1.843"	1/4"
140-1-308	14	1 1/16"	6	1.812"	1/4"
140-1-293	14	1 1/16"	6	1.812"	1/4"
150-1-339	15	1 5/8"	8	1.812"	1/4"
150-1-316 (2)	15	1 5/8"	8	1.812"	1/4"
120-1-340	12	1 1/16"	4	1.875"	1/8"
130-1-029	13	2 1/16"	6	1.843"	1/4"
150-2-330	13-2	1 1/16"	8	2.937"	1/4"
150-2-322	15-2	1 1/16"	8	2.937"	1/4"
150-1-193 (2)	15	1 1/16"	7	1.812"	1/4"
150-1-317	15	1 1/16"	7	1.812"	1/4"
150-1-295 (2)	15	1 1/16"	7	1.812"	1/4"
150-1-316 (2)	15	1 1/16"	7	1.812"	1/4"
120-1-314	12	1"	8	1.920"	1/4"
130-1-117	13	1 1/16"	8	1.500"	1/4"
130-1-307	13	1"	6	1.812"	1/4"
140-2-327	14-2	1 1/16"	8	2.937"	1/4"
140-2-328	14-2	1 1/16"	8	2.937"	1/4"

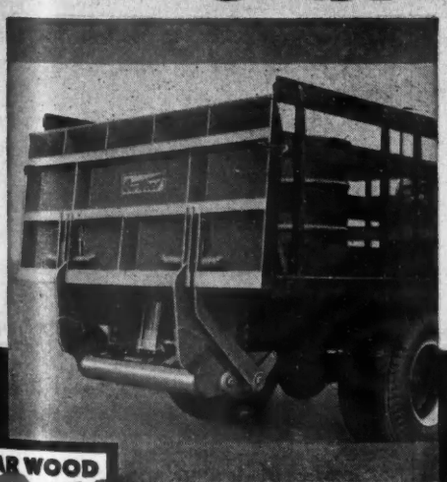
*—This dimension has a tolerance of +1/16" and —0"
(1)—With 6 bolt holes.
(2)—With 12 bolt holes.

Gentle as a Lamb

Strong as an Ox



THE GarWood ELEVATING END-GATE



4419-B

Gentle as a lamb—it prevents damage to shipments. Strong as an ox—it knocks down your truck delivery costs. The Gar Wood Elevating End-Gate greatly increases your deliveries per truck per day by tremendously speeding up loading and unloading with much less physical effort.

Operation is simple, positive, fool-proof. Roll the load on at ground level (or any other level below truck floor)... touch the lever and up it goes easy as a puff of smoke. Load need not be centered. No stoop, no jar, no groans. End-gate stops wherever it is when lever is released . . . or stops automatically at truck floor level. Unloading is just as easy.

Fits standard trucks and trailers one ton or larger. Ask for Bulletin L-101. Use the convenient coupon.

GAR WOOD INDUSTRIES, INC.
WAYNE DIVISION, WAYNE, MICH., U.S.A.

PRODUCTS—HOISTS • DUMP BODIES • WINCHES • CRANES

GAR WOOD INDUSTRIES, INC.
Wayne Division, Wayne, Mich.
Please send Bulletin L-101 showing how the Gar Wood Elevating End-Gate reduces truck delivery costs.

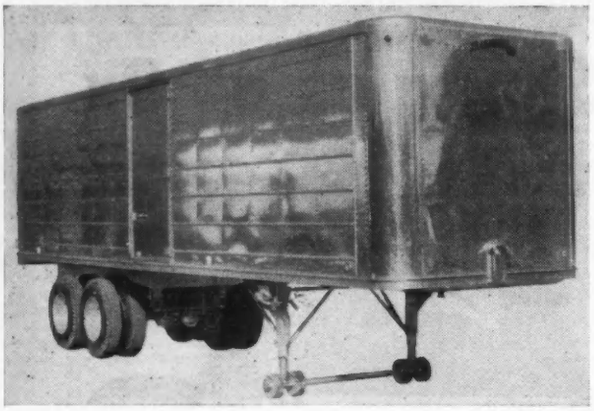
Name_____

Title_____

Address_____

City_____ State_____

New Trailmobile



New Model A Trailmobile. Constructed of steel and aluminum, it weighs 240 lb less than predecessor Model AA

TRAILMOBILE is offering the truck transportation industry a new standard-design trailer, known as Model A. Constructed from steel and aluminum, it is new from stem to stern; even to the Trailmobile emblem, which also has been redesigned. It will be a line production job and will be dove-tailed in with Trailmobile's custom production.

Simplicity of lines characterizes the general styling of Model A, with an overall pleasing effect. The styling of the corners produced a modern effect, even though the interior has squared sides for maximum freight loading.

The essential characteristics of the Model A are said to be the result of a survey of users of this kind of equipment. Consequently, the principal features represent more of the practical than style changes over the previous line leader, Model AA.

Perhaps the most important feature, from the payload point of view, is that the unladen weight has been reduced by 240 lb. It is claimed that this is an engineering achievement, not made at the sacrifice of body strength or serviceability. In fact, James J. Black, vice president in charge of engineering, presented specific data showing that in the design and construction of Model A greater strength and rigidity has been achieved.

New, Crowned Roof

THE roof bows, for example, in the new crowned roof have much greater resistance to deflection, and the roof sheets are ribbed for greater strength.

A sturdier new rear roof member is dent-resisting, and the drip molding is an integral part of the roof member.

A thick, extruded aluminum rub rail is mounted at the bottom of the sidewall. The rub rail and the integral drip molding protect lights and side panels from damage.

The new floors also are said to be stronger and more durable, yet much lighter in weight. The standard floor is made of tongue-and-grooved fir. The end boards are fitted into channels designed to prevent corrosion at

NIEHOFF trouble-free ignition
FOR EVERY TRUCK IN YOUR FLEET!

Rely on Niehoff for dependable ignition for every truck, every trip. Niehoff parts are top quality parts, precision-engineered for fast, easy installation and long, dependable service. All Niehoff parts are catalogued by a single code for every make and model of truck— and warranteed for 4,000 miles or 90 days!

C. E. NIEHOFF & CO.
4925 LAWRENCE AVE., CHICAGO 30, ILL.
BRANCHES: BOSTON 34, MASS., 254 Brighton Ave.
LOS ANGELES 15, CALIF., 1330 W. Olympic Blvd. • NEW YORK 19, N. Y., 250 W. 54th St.

NIEHOFF Warranteed Ignition

Steps up Design and Construction

Model A features greater strength and rigidity than previous line leader, although weight is reduced 240 lb. Price also cut by $480

the bottom of the panels. It is claimed that the floors support maximum fork-lift truck loads with safety.

For refrigerated or wet cargoes, channelled extruded aluminum alloy floors are supplied. They are said to be very strong and rigid despite their exceptionally light weight. These floors are laid with a slight rise toward the front to permit drainage of moisture. Two drain holes are provided at the rear.

The sidewalls of Model A are made up of Alclad panels, which are said to resist corrosion and hold their bright finish for a long time. The panels are mounted to permit easy replacement.

Rear Construction Heavier

DOOR frames on the Model A are made of extruded aluminum. Heavier rear doors are used and they are flash-welded at the corners to assure greater rigidity. A liner of rubber has been added to the slam strip. This not only cushions closing but also seals out moisture and dust.

Close-fitting hinge butts on the new door hinges are protected. The sturdy hinges are fastened securely to the door frame and can be replaced without disassembling the door. New, positive-acting door opening and closing hardware is recessed.

(TURN TO PAGE 194, PLEASE)

The four men who created the Model A. L. to r., William A. Burns, Jr., vice-president and salesmanager, James J. Black, vice-president in charge of engineering; George M. Bunker, president; S. E. Biggs, vice-president in charge of manufacturing. Model A, showing rear of body, is in background

OUT OUR WAY
OH, BALONEY! YOU'RE LIVIN' IN THE OLD HORSE AN' BUGGY DAYS! A MOSSBACK OF THE OLD MUSTY MALVE DECADE!
YEAH? WELL, IT'S THE OL' BOYS OF TH' MUSTY MALVE THAT MADE IT POSSIBLE FER YOU TO HAVE WHUT LITTLE BRAINS YOU GOT! WHO INVENTED ALL TH' MODERN CONVENIENCES--SOME JITTERBUG LIKE YOU? HAH!
HE'S RIGHT-- YOU HAD TO RIDE IN AN OXCART TO WANT SOMETHIN' BETTER... THIS GENERATION IS GETTIN' TOO COMFORTABLE, I THINK!
THERE'S ONE IMPROVEMENT THEY AGREE ON, THOUGH-- SOL-SPEEDI-DRI! TH' BOY IS SORE BECAUSE IT WAS OLD JOE WHO FIRST THOUGHT T'SEND FOR A SAMPLE!
THE OLD AND THE NEW
J.R. WILLIAMS
More for the money made it sales leader
SOL·SPEEDI·DRI
It's no accident when a product leads its field. SOL-SPEEDI-DRI is America's largest selling oil and grease absorbent. The reason? Test after test proves that, all factors considered, it gives more for your money. Send coupon for free sample and folders about how to keep your floors clean and slip-proof with SOL-SPEEDI-DRI!
Warehouse stocks maintained in principal cities of the United States and Canada.
Inquirers in New York, New England, and New Jersey should write to Speedi-Dri Corp. Elsewhere in U.S. to Waverly Petroleum Products Co., 1724 Chestnut St., Philadelphia 3, Pa.
SPEEDI-DRI CORP., 210 W. Washington Sq., Phila. 5, Pa.
WHEN YOU BUY, BE SURE IT'S SOL-SPEEDI-DRI OIL & GREASE ABSORBENT
FREE SAMPLE:
Fill out the coupon and mail today for big, free sample and literature.
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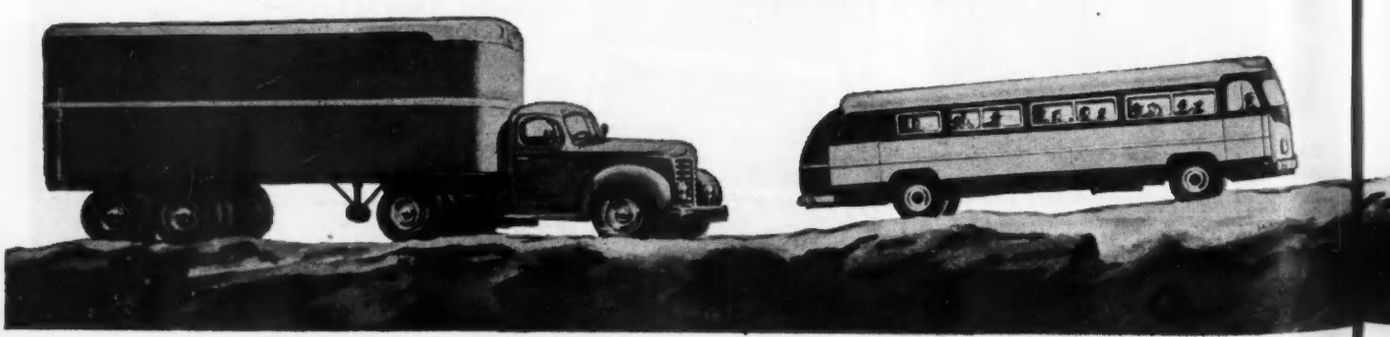
OUT

COMES THE
OF

ALUMINITE BG Insulators are outstanding. This ceramic is an exclusive BG development proven by aircraft research and flight. The insulator is tough ... it's smooth ... it stands the stress and strain of high engine heat ... it resists lead attack and fouling. Clean or dirty, dry or wet, you know it's a better Spark Plug because you can "feel" improved engine performance.



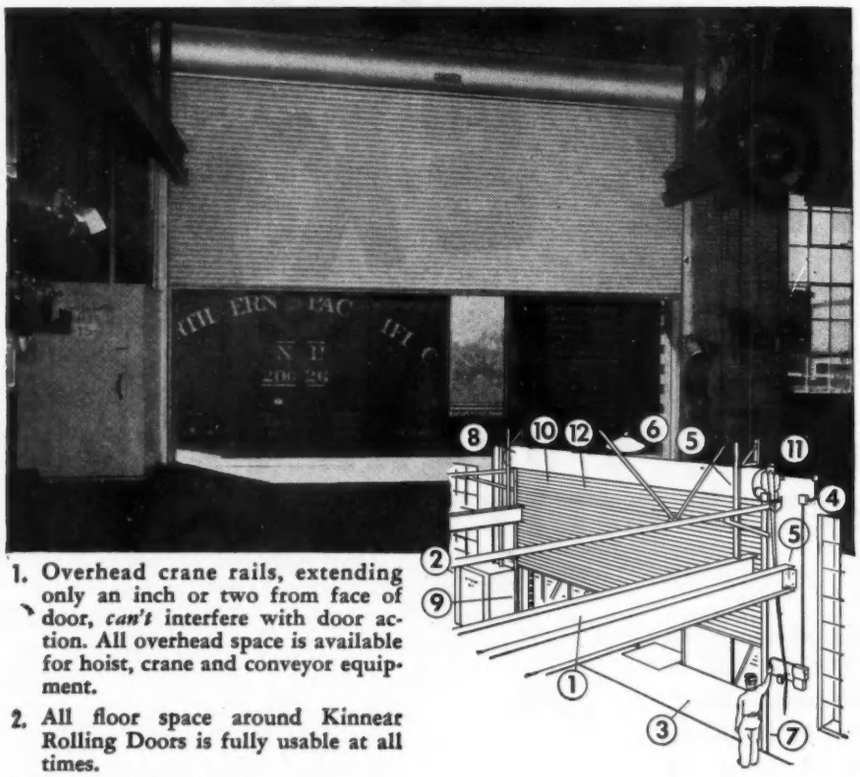
OF THE SKY

NEW AUTOMOTIVE SPARK PLUG AVIATION RELIABILITY . . .

Since World War I, one name has been dominant in Aviation Spark Plug development . . . THAT NAME IS BG. From the days of the old wood and canvas "Kites" to the modern "Jets" . . . from the early Barnstorming, Endurance and Altitude Flights to today's Airliners and Giant Bombers, BG SPARK PLUGS have kept pace with the electrifying progress of American Aviation. The BG "know how", research and matchless facilities that have made this record possible are now being focused upon SUPERIOR SPARK PLUGS FOR THE AUTOMOTIVE INDUSTRY.

Today's higher compression engines and new fuels pose problems which will not be met by ordinary spark plug performance. This is a new era in engine design and the superlative qualities inherent in BG are needed to meet present demands. You will want the EXTRAS in BG Spark Plugs . . . they have been road tested in big-time, heavy-duty fleets and are ready and able to prove their new high performance and low maintenance expense in your payload units. Ask for the details, attractive prices and a copy of the new BG Catalog. The B. G. Corporation, 136 W. 52nd St., New York 19, N. Y.

No other doors offer all these advantages



1. Overhead crane rails, extending only an inch or two from face of door, *can't* interfere with door action. All overhead space is available for hoist, crane and conveyor equipment.
2. All floor space around Kinnear Rolling Doors is fully usable at all times.
3. No sacrifice of space on narrow loading platforms with Kinnear Rolling Doors. They need no room inside or outside the building for opening and closing action.
4. Windows can be placed right next to Kinnear Rolling Doors . . . they are never blocked off when the doors are operated.
5. Supports or other superstructure can be placed close to sides, front and top of Kinnear Rolling Doors —inside or outside the building.
6. Light from overhead fixtures is never blocked off by Kinnear Rolling Doors, they coil compactly above the opening.
7. Wind can't blow Kinnear Doors back and forth, or damage them. Edges are anchored in steel tracks from floor to ceiling!
8. Kinnear Rolling Doors open straight upward, coiling completely out of the way of traffic, safe from damage.
9. The opening is cleared from jamb to jamb and floor to lintel. No projecting edges or parts to obstruct opening.
10. A continuous curtain of strong interlocking steel slats gives you extra protection against fire, theft, intrusion, wind, weather and accidental damage.
11. Kinnear smooth, upward action is ideal for time-saving motor operation, with convenient remote control. Rugged Kinnear motor operators do the trick.
12. Kinnear's interlocking steel slat curtain is not only more rugged and longer lasting, but permits any number of slats to be individually replaced if accidentally damaged. Lower maintenance costs!

You get many other advantages in addition to those highlighted above in Kinnear Rolling Doors. They are built any size, with motor or manual operation. Easily installed in old or new buildings. Write for complete information or recommendations

THE KINNEAR MANUFACTURING CO.

Factories: 2100-20 Fields Ave., Columbus 16, Ohio
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Offices and Agents in All Principal Cities

Saving Ways in Doorways
KINNEAR
ROLLING DOORS

Kinnear Rolling Doors

New Trailmobile

Continued from Page 191

Model A's design and construction provides good protection to the rear. Four die-formed steel bumpers and a heavy steel tail shelf protect the rear end against damage. Lights and reflectors are recessed behind bumpers and the tail shelf.

In addition to the entirely new body, a number of undercarriage improvements are reported for this model. Two of these are the addition of an improved type of rubber bushing for the radius rod pin, designed to provide easy replacement, and a new and stronger upper fifth-wheel plate, designed to provide better mounting for the king pin.

While no specific prices were quoted, it was pointed out that the new design and construction features not only produced a superior vehicle but that its price would be generally lower. For a model comparable to the one unveiled at the factory, it was stated that it would run approximately $480 less than its comparable model in the previous line.

Trailblazer Club Organized

THE occasion of announcing and unveiling of the new model (at which Miss Yolande Betbeze, Miss America 1951, participated) on March 16 at Cincinnati also was the occasion of the formation of Trailmobile's "Trailblazer Club." This Club comprises, at present, 16 of the company's outstanding salesmen to whom George M. Bunker, Trailmobile's president, presented diamond-studded, gold lapel pins in recognition of their achievements.

The salesmen received into the Trailblazer Club are: R. M. Hudson, Indianapolis; W. A. Sieger, Cincinnati; A. F. Powell, Indianapolis; H. S. Robb, Peoria; Brooke Fellers, Dallas; M. A. Verwys, Grand Rapids; E. W. Hill, Los Angeles; E. R. Bryar, Chicago; W. A. Grange, Berkeley; R. B. Williamson, Indianapolis; J. D. Woollett, Jr., Pittsburgh; U. N. Boykin, San Francisco; R. W. Dulin, Charlotte; Thomas Peacock, Charlotte; and E. T. Gray, Detroit.

Trailmobile distributors received into the club are: W. H. Blackburn, Louisville, and R. F. Steiner of Huntington.

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For example: The lines your NAPA Jobber stocks are lines you *know.* Many of them are widely used as original equipment. In every case, they are recognized by automotive engineers as meeting the highest standards of quality, performance and service.

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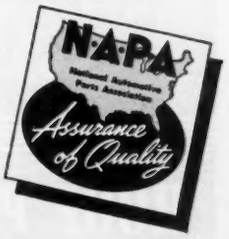

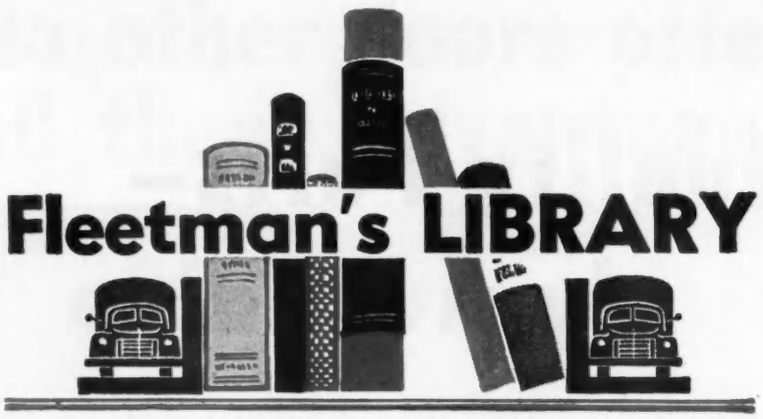

OPPORTUNITIES IN MOTOR TRANSPORTATION, by Bart Rawson, Editor of COMMERCIAL CAR JOURNAL; a comprehensive 112-page book covering employment opportunities in the truck and bus fleet field. Gives detailed job qualifications for drivers, mechanics and supervisory positions plus facts on unions, hiring practices and opportunities in related fields. A valuable guidance manual for prospective employees. Price $1.00. Vocational Guidance Manuals, Inc., 45 West 45th St., New York 19, N. Y.; or mark postcard, Page 50, for further details.

BAKER FORK TRUCKS model FT-60 (6,000 lb. Cap.) are described in an eight-age specification pamphlet released by Baker Industrial Truck Division of the Baker-Raulang Co., Cleveland. It gives information about the model including sectional and dimensional drawings and pictures describing the industrial adaptations of the unit. Maintenance of the major truck components is also discussed.

GRAPHITE users will be interested in technical data booklet that has been published by Joseph Dixon Crucible Co., Jersey City, N. J. This 23-page booklet contains data regarding the history, supply, characaeristics of various graphites, specific properties, recommendations for the selection of the best-suited graphite for the particular requirement, and general information about products made from or with natural graphite.

BATTERY ACTIVITIES, by Paul L. Howard and George W. Vinal, of the National Bureau of Standards, lists various preparations of liquids and solids being sold to the public as "battery rejuvenators." Extensive laboratory and field tests have been conducted by the National Bureau of Standards for the Federal Government in order to determine the practicability of these additives.

Most of these materials are composed of varying proportions of magnesium sulphate and sodium sulphate. Recent tests at the bureau have shown little or no difference between batteries treated with these mixtures and similar untreated batteries used as control.

Send 15¢ to the Government Printing Office, Washington 25, D. C., and ask for National Bureau of Standards Circular 504.

ROBOT-OPERATED DOORS are described in a folder of information being made available by Robot Appliances, Inc., Dearborn, Mich. It shows what has been done in the field of automatic and remote control operating of doors, etc., in the past 20 years. A copy is available without charge from Robot Appliances, Inc.

LUBRICATING EQUIPMENT CATALOG has been announced by the Aro Equipment Corp., Byran, Ohio. It is known as Catalog 19 and it includes Aro's line of automotive lube equipment listed in group sequence for ready reference. A series of photographs show actual installations of the equipment in service stations, with a floor plan and bill of material below each picture. Detailed installation dia-

(TURN TO PAGE 198, PLEASE)

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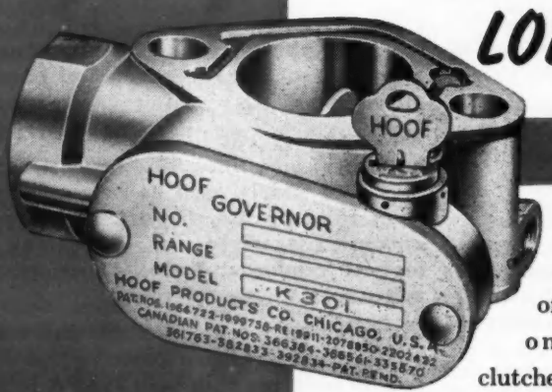

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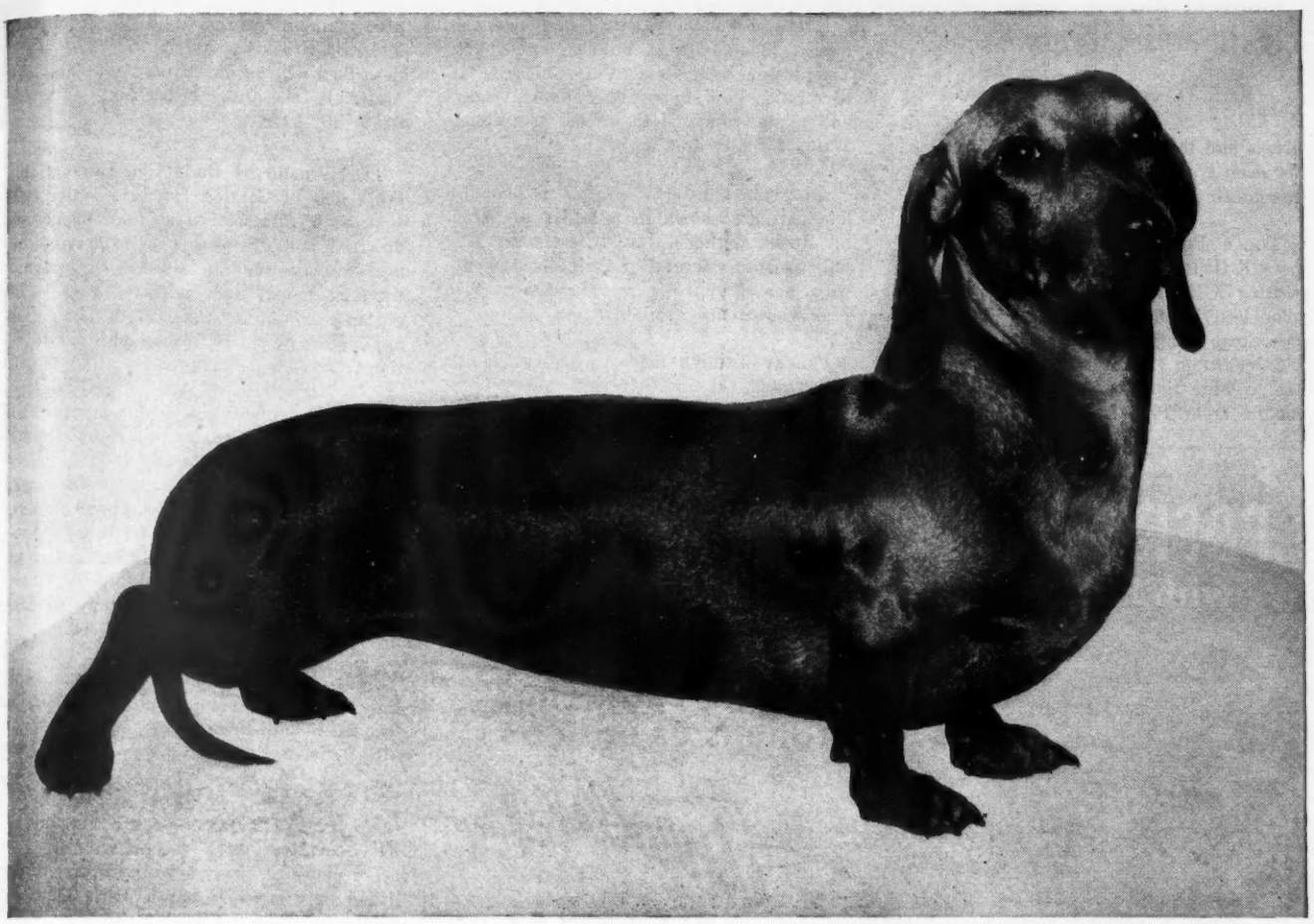

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Fleetman's Library

(Continued from Page 196)

grams and instructions have been provided for each type of equipment requiring linkage to air lubricant lines.

TOOLS FOR FORDS are shown in the new K-D tool catalog available free by writing K-D Mfg. Co., Lancaster, Pa., on shop letterhead. There are over 120 tools described and illustrated. Ford valve service chart on the back shows the correct tool combinations to service all Ford-built motors from 1928 to date.

HYDRAULIC PULLERS are listed and discussed in an 8-page bulletin issued by Templeton, Kenly and Co., Chicago. It illustrates how hydraulic, pullers, rams, and pumps are used in several operations. Write for "Hydraulic 51."

ADJUSTABLE LOADING DOCKS for freight handling are shown in a folder prepared by Rowe Methods, Inc., Cleveland. The bulletin shows several of their docks along with photographs of actual installations. Free copies are available.

PALLET TRUCKS made by Silent Hoist and Crane Co. in their new heavy duty line are outlined in Bulletin No. 77, available without charge from the company, address, Brooklyn 20, N. Y. The units described will be displayed at the National Materials Handling Exposition, Chicago, April 30, 1951.

JACKS made by Buda Co., Harvey, Ill., are listed in Catalog No 1515 which has just been released. The jack capacities are from 3 to 75 tons. The features of the new bulletin include a table of contents by jack model and industry, a table to aid in selection of the correct jack, unit application pictures, uses, and specifications.

WELDING SUPPLIES, an 8-page booklet describes with photographs a complete line of welding supplies which includes electrode holders, ground clamps, cable lugs, wire brushes, connectors, lens, head shields, cable and lists electrodes for every essential welding need. In addition a list of leading books on arc welding is incorporated. Send request for a copy to The Lincoln Electric Co., Cleveland, Ohio.

PISTON RING CATALOG featuring the Moog piston ring line has just come off the press and is available on request to Moog Piston Ring Co., 6650 Easton Ave., St. Louis 14, Mo.

DIESEL TOOL CATALOGS are now available covering tools and equipment for every phase of overhaul and repair. Published by Curtiss & Smith Mfg. Corp. of Pottstown, Penna. The catalogs cover tools and equipment for complete service of Diesel Engines and sub-assemblies manufactured by Cummins Engine Company and Detroit Diesel Engine Division of General Motors.

The tools range in size from timing gages upward to fuel pump and injector testing equipment and engine overhaul stands and include reamers, pullers, drivers, and holding fixtures of all types for repair and overhaul of these engines.

The catalogs are now available through dealers and distributors. For the name of the one nearest you contact Curtiss & Smith Mfg. Corp., 121 East Fourth Street, Pottstown, Penna.

AUTOBODY RECONDITIONING METHODS, an 18-page booklet covers time saving ideas and suggestions for all phases of automotive appearance reconditioning. Methods recommended are a result of actual tests conducted in various shops. Tips for both body shops and paint shops are detailed and well illustrated with numerous photographs. Write Minnesota Mining & Mfg. Co., St. Paul, Minn.

STEEL HOSE ENDS AND AUTOMOTIVE HOSE CATALOG, No. J-1503, provides complete specifications and engineering data for assembly of the all steel reusable hose ends and use of the five different types of Weatherhead flexible hose (H-9 low pressure, H-17 medium pressure, H-25 high pressure, H-69 and H-108 medium high pressure). Write The Weatherhead Co., Cleveland, Ohio.

(TURN TO PAGE 200, PLEASE)

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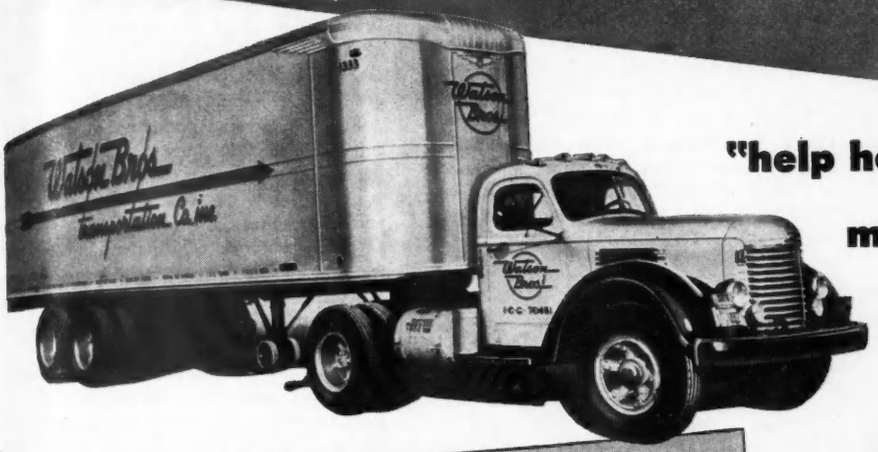

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Fleetman's Library

(Continued from Page 198)

"TRAFFIC ENGINEERING HANDBOOK," the official handbook of the Institute of Traffic Engineers, features 205 tables, 215 illustrations, 489 definitions of traffic terms, and 520 pages, and covers varied subjects as traffic accidents, traffic studies, roadway capacity and design, traffic signals, speed regulations and zoning, traffic signs, and street and highway lighting. Other chapters deal with vehicle and highway facts, vehicle motion, the driver and pedestrian, traffic markings and markers, parking and loading, one-way streets and arterial routes, traffic islands and pedestrian barriers, and pedestrian islands and bus loading zones. Priced at $6 per copy, 26 copies and over $5 per copy. Write to the Accident Prevention Dept., Assn. of Casualty and Surety Companies, New York, N. Y.

TRUCK RIMS, a four-page, two-color folder on a line of truck rims includes cross-sectional views, diagrams and sizes of 5.50-, 6.50- and 7.50-in. wide base Cleve-Weld truck rims. Published by The Cleveland Welding Co., Cleveland, Ohio.

COMMERCIAL MOTOTR TRANSPORT, by Charles A. Taft.

Here is a complete volume in every respect. For the beginner in the trucking industry, it provides a solid introduction to the field with brief, concise practical information. It is not in any way akin to heavy academic theory although it is sound in principle and in harmony with accepted academic standards.

For management personnel it is a ready reference to the many complex problems faced during the day's operations. It is a guide safety . . . a catalog of federal and state codes . . . it handles such subjects as labor problems, equipment, selling motor freight service, finding a new business, adjusting claims, and gives up-to-date information on associations, rates, and national defense.

It tells the story of transportation clearly and easily and takes time to give the details so often left out of guides and textbooks. The Publisher: Richard D. Irwin, Inc., 3201 S. Michigan Ave., Chicago 16. The price: $6.65.

PRODUCTION OF MOTOR VEHICLES, by Cunningham & Sherman.

Industrial executives who are currently tackling the conversion of their plants to handle military production needs will find a working model to study in *Production of Motor Vehicles*, a new book published by McGraw-Hill Book Company. Both authors, Henry M. Cunningham and William F. Sherman, are members of the Automobile Manufacturers Association which has sponsored publication of this book as a public service. All the information it contains has been designed to meet specific needs of the several procurement and industrial planning branches of the National Military Establishment.

A special committee of industry executives provided advisory assistance to authors Cunningham and Sherman. In preliminary form, it has been used for two years by the Industrial College of the Armed Forces, and the present volume has been analyzed and reviewed by more than twenty technical specialists. The price is $3.50.

LOCAL TRUCKING, by Linton W. Mason. Another "how to" book with one outstanding advantage, it is slanted to the operator of a local business. It describes various types of local hauling, classifying its terminology. It relates the local delivery operator to the larger national interstate systems. The definitions and functions, tables and rules governing Federal and state regulations are complete, concise, and understandable.

The operator of a local trucking outfit will find this book to be a good reference aid. The beginning operator will find much information, almost step-by-step, in how to set up and manage a local business. It tells how to do things, how not to do them, how to make money, and what's best, how to keep from losing it. The publishers, McGraw-Hill Book Co., 330 W. 42nd St., New York 18—the price, $6.50.

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Passing Accident Problems

Law usually fixes responsibility on the man who is doing the passing, but OK signals are loaded with danger to driver and employer

By Renzo Dee Bowers

WHEN one of the company's vast fleet of oil-hauling trucks topped a hill, Dave Howell, its driver, knew that a coupe was trailing him. Starting down the opposite slant, he saw a lumber truck at the bottom of the hill coming toward him. The highway was 25 ft wide. It was late dusk. The lights of all the vehicles were on, and the three were traveling at a reasonable rate of speed,

About halfway down the hill the coupe driver honked a time or two. Howell veered a little farther to the right, but gave no answering signal that he had heard the honk of the car behind. The coupe driver swerved suddenly around the oil truck and speeded up to pass. By that time, the lumber truck coming up the hill was just opposite Howell's truck. The coupe crashed fully into it, killing its (the coupe's) driver instantly.

The dead man's widow sued the oil company for damages, charging negligence on the part of its truck driver as the cause of her husband's death. A jury gave her a verdict for $25,000, largely through sympathy arising from some vague notion that the truck driver had failed in some duty he owed to the driver of a car behind. The State Supreme Court set the verdict aside as clearly not authorized by the law.

Victim Was to Blame

THE coupe driver had been killed through his own negligence. He had failed to make sure, before passing the oil truck, that the way ahead was clear. No duty had rested upon the truck driver to warn him. "The negligence on the part of the coupe driver," the court ruled, "consisted in attempting to pass the oil truck at the particular time he did so, without ascertaining to a certainty that the way was clear of approaching cars. His negligence resulted in his own death. It was not intended, according to the law of the road, on a highway only 25 ft wide, for three rapidly driven cars to pass each other at the same time. The lumber truck driver had the right of way on his side, and the coupe driver should not have attempted to occupy that space in order to pass the oil truck in front of him."

Judges usually assert that the truck or other vehicle in front has a favored position over another trailing or attempting to pass, as long as the forward driver keeps on his own side of the road without suddenly stopping.

His right is said to be "superior" to that of the driver behind, in the nature of a priority to use the highway in the usual manner of driving. "The front vehicle," one court stated, "has the superior right to proceed straight ahead on its own side of the road. One who wishes to pass from the rear must so manage as not to cause injury to another, under the penalty of being chargeable with negligence. The rear automobile, in undertaking to pass another going in the same direction, does so at its own peril from oncoming traffic when the truck being passed is proceeding on its own right side of the highway and in a proper manner."

Who Is Responsible?

EMPHASIZING these rules of law which put the burden upon the driver attempting to pass another from behind, of looking out for his own safety and that of others while he is engaged in the operation of passing, the Michigan court once remarked in a pertinent case: "One driving an automobile on the wrong side of the road attempting to pass another, assumes the duty of using greater care."

A recognized law-writer has said of such a situation: "The operator of an overtaking vehicle must regard and take into account not only the overtaken one, but also any which may be approaching from the opposite direction. While he has a right to drive between vehicles, which are passing each other in opposite directions, it is incumbent upon him, before attempting to do so, to see to it that he can accomplish such passing with reasonable safety to himself and to others."

Lead Car Independent

THE driver of the front car, whether truck or other motor vehicle, owes no obligation to the rear or trailing car, except to use the highway in the usual manner in keeping with the law of the road. Until he has been made aware to the contrary, by signal or otherwise, he has a right to assume either that there is no automobile in close proximity to his rear, or that, being there, it is under such control as not to interfere with his free use of the road in front and to the side of him in any lawful manner.

It is fundamental that a driver's duties toward a trailing vehicle start when he becomes aware of the presence of the rear machine. Here an important situation may emerge, deserving the careful consideration of all truck owners, whether of fleets or a few, since a misapprehension of the law concerning it can result in their briefing their drivers with such instructions as to cause them to lean over backward in showing concern for drivers of other vehicles to the rear.

The question is this: If a truck driver, proceeding properly on his own side of the highway, either at daytime or night, is signalled by a trailing vehicle to pass, is the truck driver required to respond with a go-ahead signal? If he does respond, and the rear vehicle in attempting to pass collides with another approaching from the opposite direction, are the truck driver and his employer liable for the resulting damage?

The courts over the country are practically in accord in the answers they give to these questions.

No Warning Required

"No duty," one explained, "rests upon a driver to blow his horn or give other warning to a car in the rear that there is another automobile approaching going in the opposite direction; nor does any duty rest upon the driver ahead to drive on the shoulder of the road so as to enable a driver in his rear to see

(TURN TO NEXT PAGE, PLEASE)

dgf 123 . . .

. . . the dry film pre-lubricant containing colloidal synthetic graphite. Spray it on vital parts before engine assembly to protect them during "break-in" . . . it adds thousands of miles to engine life.

Ask your jobber salesman for dgf 123 or write

THE AP PARTS CORPORATION • TOLEDO 1, OHIO
Miracle Power Division
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Passing Problems

Continued from Page 203

a car approaching from the opposite direction."

The Virginia court recently ruled: "A driver must be constantly on the watch for dangers in front, but, if on his proper side of the highway, he is not required to maintain such lookout as to vehicles coming up from the rear."

Hitting the nail squarely on the head, the Ohio court a short time ago declared: "The driver of a slowly-moving truck is under no legal obligation to advise or warn those following him that the way ahead is clear, or that travel is approaching from the opposite direction; and he is under no legal duty to warn those approaching him of the traffic in back of him."

Negligence Is Not Excused

Exceptional cases have been aired in court infrequently, which have induced judges in a few instances to adopt rules apparently at variance with the foregoing. They at least seem to qualify these rules in an effort to temper the wind to the shorn lamb in a particular case. But the divergence from the established rules is more apparent than real.

For instance, four boys started on bicycles from Philadelphia to Pleasantville, N. J. Near Stratford, they were passed by a closed truck which they then trailed, the truck driver knowing they were there. As they were going down a long incline, the driver saw a farm wagon standing across the road ahead, and beyond it six or seven touring cars coming rapidly from the opposite direction. He wanted to pass around the wagon before the cars got there, but finding he could not make it he clamped his brakes to a sudden stop almost on top the wagon, without signalling to the boys behind. Three of the boys swerved to the right and piled up on each other in a ditch. To keep from crashing into the truck, the fourth boy turned to the left just as the first of the string of touring cars was passing. The car hit him and injured him.

In a damage suit in behalf of the boy, a substantial damage judgment was entered against the truck driver and his employer by the New Jersey court which explained: "Operating a motor truck which obscures vision along the public highway to such an extent as to prevent those driving or riding behind from observing conditions which ought to be known to them in order to reasonably insure their safety, casts a duty upon the driver to use reasonable care that timely and ample warning be given of approaching danger to those whose view of the impending peril he obstructs."

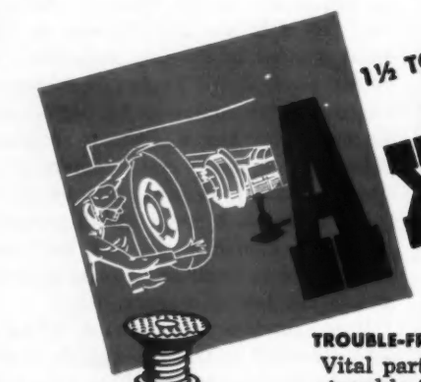
Standing alone, that statement runs counter to the views of other courts, in apparently placing upon a truck driver the duty of watching out for travelers behind him and of warning them of approaching danger; but in reality that was not the basis of the decision. The truck driver was declared guilty of negligence in turning from his side of the road and then stopping suddenly without giving warning of his intention to do so.

It being the general law, then, that a truck driver, sticking to his side of the road and proceeding in the usual way of driving is under no legal duty to signal or otherwise warn of approaching vehicles to other drivers behind when they make it known that they intend to pass them, specific problems in connection with that phase of driving frequently arise to plague drivers and financially threaten their employers or owners of fleets.

(TURN TO PAGE 206, PLEASE)

1½ TO 12 TON AUSCO HYDRAULIC

Axle Jack



TROUBLE-FREE

Vital parts, that mean so much to trouble-free, dependable hydraulic jack performance, are given special attention in the AUSCO Hydraulic Axle Jack. Such important parts of the hydraulic lifting mechanism as the ram cup, the piston cup, ram and piston packings are fabricated of special materials selected because of their resistance to oil, wear and metal adherence. Gravity feed-valve mechanism, without springs, assures trouble-free, positive valve action.

EASY TO SERVICE

Simply remove three small parts and ram slides out for servicing. No need to dismantle entire jack!

INSTANT-RESPONDING LIFTING ACTION

Exclusive AUSCO "in-line" valve action raises load simultaneously with first stroke . . . no wasted elbow grease! "Instant-flo" safety release valve assures easier operation and positive, controlled lowering.

SAFE, EASY PLACEMENT

Strong malleable iron base provides safe, leak-proof foundation; its special "self-aligning" design makes jack easier to place.

WIDE CAPACITY RANGE!

1-1/2-tons 3-tons 5-tons 8-tons 12-tons

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as well as mechanical models, available in new, illustrated 1951 AUSCO Catalog. Yours without cost or obligation from: Auto Specialties Mfg. Co., Dept. CC-4, St. Joseph, Mich. Other plants: Hartford and Benton Harbor, Mich.; Windsor, Ontario, Canada.

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MAKERS OF Hydraulic and Mechanical Jacks, including HYDRAULIC: Service and Axle Jacks. MECHANICAL: Friction and Ratchet Bumper Jacks; Saf-Lift Jacks, Steel Horses and Scissors Jacks.

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Idle Motors, Chrysler-Plymouth dealer, River Grove, Ill., has built a county-wide reputation for service. Plenty of good mechanics, with plenty of good Snap-on Tools, according to Service Manager William J. Mayer, help keep service prompt and profitable.

● The whole Idle Motors operation is outstanding—381 front feet of display window, backed by service facilities for 40 cars at once! Service work is plentiful—and profitable—in this fine shop. Certainly, Idle Motors' splendid equipment of Snap-on Tools, by helping every mechanic do a better, faster, surer job, has helped, too, to build the *reputation* that brings in a steady volume of service business. Snap-on professional tools have helped thousands of shops—tens of thousands of mechanics—to increase incomes 20 to 40 per cent. Snap-on's in-the-shop, right-at-the-bench SERVICE has, for 30 years, offered "the time-saving way to buy time-saving tools." Write for 104-page catalog.

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800 strong! Snap-on men like these give you Snap-on service coast-to-coast!

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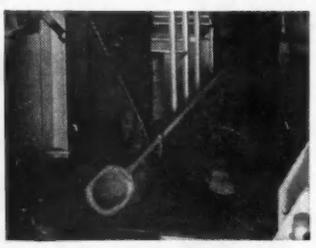
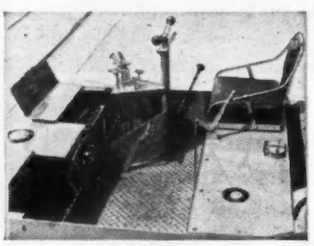
For greater safety under foot, in your plant and on your products

Inland 4-Way® Safety Plate

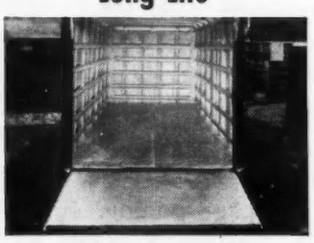


Firesafe



Long Life

Quick Starts—Stops



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STOCKED BY LEADING STEEL WAREHOUSES

Passing Problems

(Continued from Page 204)

Signal or No Signal?

These questions have been asked: If a truck driver, hearing the honk of another motor vehicle behind him indicating an intention to pass, does in fact give an answering signal of his lights, if at night, or a toot-toot if in daytime, and the rear car speeds around, only to crash with a vehicle coming from the opposite direction, is the truck driver liable for the resulting damage? Is his employer, or the fleet-owner, liable? Does it make any difference whether the truck driver did the signalling on his own responsibility, or by reason of instructions from his employer to practice signalling?

From the principles of the law and the rulings of court already adverted to in this article, it is obvious that signalling under circumstances of the kind to go ahead is merely a gratuitous act. There is no legal obligation requiring it of the truck driver. It is merely regarded in most quarters as a courtesy of the road.

Law Is Not Absolute

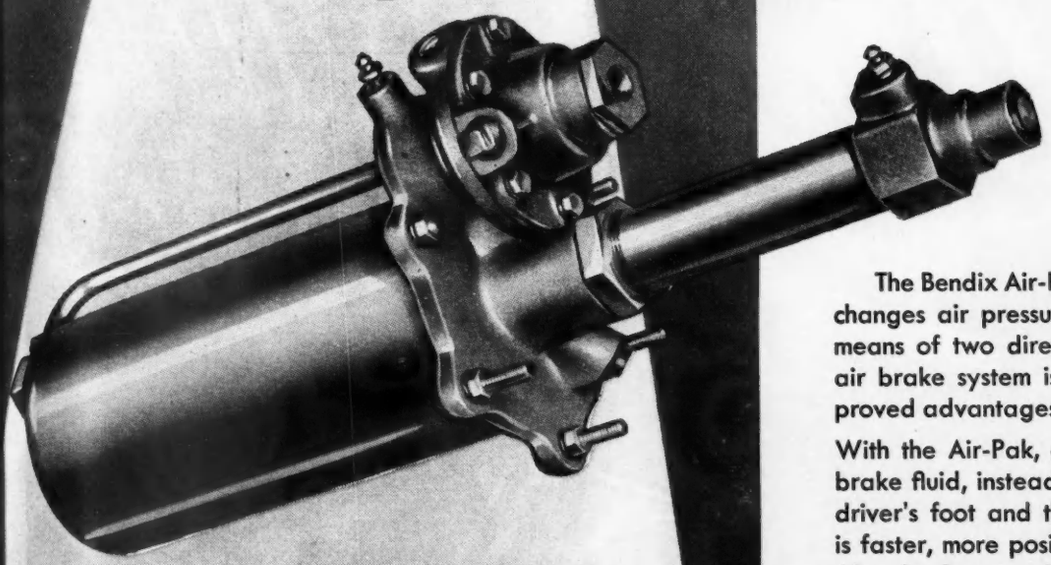
As a matter of law, however, the act is freighted with danger to the driver and to his employer. They should take warning as to what may be in store for them if they make it a habit to engage in signalling of the kind to every Tom, Dick, and Harry who slips up behind them and gives out a honk.

Consider these facts, and the legal effect they may produce: If a truck driver gives an answering signal to one behind him to go ahead, he impliedly represents that it is safe for the rear driver to pass him. He becomes legally responsible for the results if it turns out to be otherwise, and his employer will be also liable in the same degree; whereas, if the driver merely attends to his own knitting by being sure to comply with the driving rules that apply to him, and lets the rear driver determine for himself whether it is safe to pass, neither truck driver nor his employer can be held for damages in the event a wreck ensues.

(TURN TO PAGE 210, PLEASE)

Bendix AIR-PAK

An Air Brake Unit that Revolutionizes Heavy Vehicle Braking!



The Bendix Air-Pak is an air-hydraulic unit that changes air pressure into hydraulic pressure by means of two direct connected pistons. Thus an air brake system is combined with all the well-proved advantages of hydraulic brake actuation.

With the Air-Pak, a non-compressible column of brake fluid, instead of air, connects between the driver's foot and the brake shoes. Brake action is faster, more positive and under better control. Also, brakes can be applied instantly by foot-power alone—a valuable emergency stand-by if brakes are needed before air pressure builds up, or if air pressure fails for any reason.

The Air-Pak is similar in design and principle to the well known Bendix* Hydrovac*, vacuum-hydraulic braking unit, in use today on more commercial vehicles than any other power braking system. Bendix has built more than 2½ million Hydrovacs; thus the Air-Pak has a matchless background of related engineering and manufacturing experience.

A descriptive folder on Air-Pak will be sent on request.

*REG. U. S. PAT. OFF.

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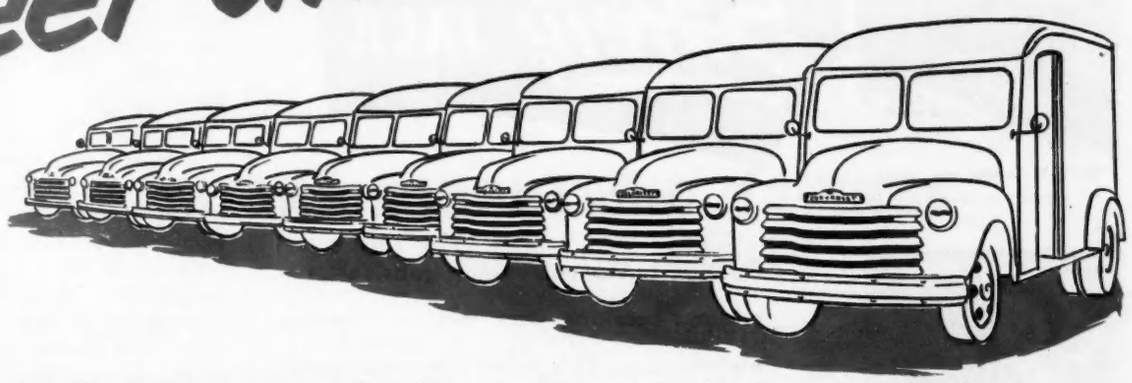
You can always depend on your Chevrolet dealer to help you service your fleet better and faster. His long years of Chevrolet service know-how are at your disposal. He stands ready, willing and able to help you maintain your all-important repair schedules. Make full use of his experience with Chevrolet service problems. And draw on his large and balanced stock of Chevrolet parts.

FLEET EXPERIENCE PROVES IT PAYS—

Chevrolet Parts Fleet Units!



Genuine Chevrolet parts can do a big job for your fleet operation. They'll help you keep your cars and trucks on the highways . . . away from the repair shop. Replacement with genuine Chevrolet parts can play an important part in increasing your fleet profits . . . by helping to keep maintenance and operational costs down to a minimum. Over the long run or the short, you'll find it *good business* to replace with genuine Chevrolet parts.

CHEVROLET MOTOR DIVISION, *General Motors Corporation*, DETROIT 2, MICHIGAN

CHEVROLET

For Your Best Deal...

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Passing Problems

Continued from Page 206

Employer Responsible

As to the employer or fleet-operator, he or it is responsible for whatever damage is inflicted upon others through the negligence of the truck driver in any situation in which the driver *is acting within the scope of his employment.* This means simply that if he was going about his usual duties in taking care of his employer's interests and business, his act carries the same result, legally speaking, as if the employer, if an individual, or an officer of the company if a corporate-owner, had done the act himself.

So, if damage to others is caused through the driver's signalling others to pass when such signalling is not required by law, both driver and employer are liable to the victim. It is immaterial whether the driver signalled on his own responsibility or as a matter of complying with instructions from his employer. Even when drivers are warned by their employers not to signal in such situations, and they do signal notwithstanding, liability may be imposed upon the employer. Outsiders are not bound by secret instructions an employer may give to his driver.

Road Fixing Process Promises Lower Costs

New asphalt roads from old are made possible by a new rejuvenating process announced by Shell Oil Co. The rehabilitation method is said to save up to 50 per cent in highway repair costs representing potential savings of millions of dollars in tax money. In addition, the new technique permits roads to be rebuilt speedily without detouring, and conserves road-building materials which are becoming scarce in many areas.

Highway departments will be able to restore the original surface utilizing salvaged materials from the existing road. In most cases, the only ingredient necessary to add is asphalt softener, the liquid petroleum product which makes the process effective.

The new rejuvenating method developed jointly by Shell and Reclaimix, Inc. of Sacramento, Calif. can be applied on one lane of a road while traffic continues on the other. First, the old pavement is ripped up and tested to determine what additional components, if any, are needed to produce the desired road qualities. The broken up pavement, which was formerly hauled away and discarded, is then fed into a mobile "road plant," where it is pulverized and mixed with the asphalt softener. Finally, the rejuvenated pavement is re-laid behind the mixing machine and the lane is opened for traffic immediately.

Ohio Completes Study

The Ohio highway study committee has made public the findings and recommendations of a two-year state-wide study of the state's highway system. The investigation disclosed that 29,307 miles of the state's 102,299-mile total of roads and streets are physically deficient and must be improved.

Major difficulties in condition were noted on major rural and urban state highway routes, where over half of these were deficient. Rebuilding of the state's road system to accommodate today's traffic volumes would cost $269,338,000 annually for a 20-year period.

Take it easy . . . .

WITH THE DRUM Safety JACK

SPOT IT—under any axle, from any angle.

WITH SWIVEL ACTION

Do tire, brake and bearing jobs faster—without breaking your back or crawling under trucks. This heavy-duty jack works anywhere—under any wheel. One man does two men's work with a DRUM *Safety JACK.*

SWING IT—Bring dollies into position for removing wheels without lifting.

LEVEL IT—Pull wheels easily without damage to bearings or seals.

Use the DRUM *Safety* JACK for dual wheels, single wheels, or as a floor jack.

- QUICKER
- SAFER
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We would like to know more about the DRUM *Safety* JACK.

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USERS REPORT BIG SAVINGS IN SERVICE COSTS

Benium is the password to profit these days. Fleet operators are discovering that rugged Eclipse Brake Blocks reduce maintenance charges to a bare minimum—with lots of extra trip mileage between overhauls. That adds up to important cash savings in the long run with safe, smooth stops all the way. So, get in on the pay off. Install Eclipse Brake Blocks all around. Watch the results and see for yourself what a difference ***Benium*** makes in your fleet.

BENIUM* *Heat-resisting materiat ts the secret ingredient developed by the Marshall-Eclipse Division of Bendix and used exclusively in Eclipse brake linings and heavy-duty brake blocks.*

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Greatest Name in Braking!

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Bendix
AVIATION CORPORATION

Washington Runaround

Continued from Page 31

was intended as a minimum standard, a floor rather than a ceiling, on such weights and sizes for the war period," stresses Mr. Knudson.

AASHO Code a Minimum

Mr. Knudson believes the States can best handle the problem and he suggests as a *minimum standard* for each State during the emergency the uniform standards on sizes and weights promulgated by the American Association of State Highway Officials.

He emphasized that AASHO code should be accepted as minimum standard only and urged that "there be no reduction of existing size and weight standards in any State, even though the present limits may be above the code specifications. The Defense Transportation Administration must seek to broaden, rather than reduce size and weight provisions, whenever it is sound to do so."

To prevent overloading and highway damage, Mr. Knudson declared that he would ask the full cooperation of the ICC Bureau of Motor Carriers in supplementing State regulation and supervision to prevent overloading of vehicles.

Specific requests for assistance from individual States will also be necessary, warns Mr. Knudson. Under special circumstances, he might find it necessary to ask "some States even to exceed the AASHO code requirements in order to accommodate certain types of vehicles or fulfill certain transportation needs.

To meet the immediate situation, Mr. Knudson asks the Governors for active cooperation "in holding to an absolute minimum the spring thaw load restrictions usually invoked in the Northern tier of States in the spring; in facilitating the prompt movement of classified cargoes moving under seal to restricted defense plants; in permitting the operation of fully loaded tank trucks where it would be dangerous and unwise to operate them only partially loaded; to instruct your State enforcement officers to eliminate costly and unwarranted delays incident upon routine weighing and inspection of highway transport vehicles; to provide for reciprocity on licenses for trucks not normally passing through your States but which may be required to do so in furtherance of the defense effort; and to provide for the reasonable tolerances in the loading and scaling of highway transports to the end that this essential defense transportation may move freely and expeditiously among the several States.

U. S. Chamber of Commerce to Vote on Sizes & Weights

In a surprise move following the issuance of DTA Administrator Knudson's letter to the Governors (see above) the United States Chamber of Commerce will soon poll its entire membership on size and weight policies. At the Chamber's annual meeting, April 30 to May 2, members will be asked to vote on a resolution stating that the Chamber *"favors elimination of state motor vehicle size and weight restrictions unnecessarily restrictive to interstate transport."*

The resolution has been approved for presentation by the Chamber's Policy committee and reviewed by its board of directors. In announcing the move, the Chamber stated that it believed the matter of size and weight restrictions was primarily a state responsibility. But it also underscored the importance of the problem as highlighted by the Knudson letter.

(TURN TO PAGE 214, PLEASE)

A NEW DIMENSION IN CLUTCH SERVICE

You get *more miles* of trouble-free service from these new, complete clutch units. Take *less time* to install, too! And you're *sure* of full clutch release and smooth clutch engagement.

Consist of a

New POWERFLEX Plate

PACKAGED TOGETHER WITH A

Rebuilt RE-NU Assembly

MATCHED • MATED • TESTED

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CLUTCH UNITS

Cost the Same . . .

. . . although you pay only the *regular* price for the new Accurate Powerflex clutch plate and the rebuilt Re-Nu assembly, you get the *PLUS VALUES* of a matched, mated, tested, balanced, complete clutch unit at *no extra cost!*

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EXCHANGED OR SOLD OUTRIGHT!
FOR ALL POPULAR CARS AND TRUCKS

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MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

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AC FUEL PUMPS

Wilbur and Orville Wright were the *first* to realize man's age-old ambition to fly through the air. By building and flying the *first* practical airplane, at Kitty Hawk, N. C., December 17, 1903, they laid the foundations for today's mammoth aircraft industry.

There's Always a

FIRST

- AC originated the fuel pump twenty-four years ago.
- More than 100,000,000 AC Fuel Pumps have been built.
- More than 90% of all automotive vehicles were factory-equipped with AC's.
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- AC engineers build to but one standard of quality—there are no better pumps.

America's FIRST and FINEST Fuel Pumps

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

Washington Runaround

Continued from Page 212

Familiar Faces in DTA, NPA

Henry E. English, Chairman of the Board and former President of ATA, has been appointed Director of DTA's Street and Highway Transport Division. Mr. English is Chairman of the Board of Red Ball Motor Freight Inc., Dallas. Lee A. Hyde who had been handling the street and highway job for DTA remains as a consultant.

Robert Cass, Asst. General Sales Manager, Coach Division of the White Motor Co., has been named Chief of NPA's Automotive Branch in the Transportation Equipment Division. He succeeds George Davis, former acting chief, who becomes assistant chief.

William J. Cummings, Superintendent of Fleet Service Operations for the White Motor Co., is the new Chief of NPA's Transit Vehicle Section. He formerly served as chief of ODT's Maintenance Section.

George A. Meyer has been named chief of Field Service Branch, Street and Highway Transport Division, for Defense Transport Administration. Mr. Meyer has been a member of the ICC's Bureau of Motor Carriers since 1936 and served with ODT during World War II.

Supreme Court Upholds "Primary Business" Test

The famed private carrier cases, involving the Lenoir Chair Co., and Schenley Industries, have been resolved by the Supreme Court. The decision affirms the lower court which upheld the ICC view that the "primary business" test should be the determining factor in deciding what is private carriage, rather than the "for compensation" test advocated by the for-hire interests which brought the cases into court. In other words, the Supreme Court has riveted into law the ICC position that the proper test for determining private carrier status is whether the transportation performed is in furtherance of some other primary business and not whether compensation for such transportation has been received.

DO-97 Has Strings

Truckers may now use a priority rating—DO-97—to obtain materials needed for maintenance, repair and operation of their establishments and equipment. This authority is contained in NPA Reg. 4, the so called MRO order.

The DO-97 (which means Defense Order) may be used to obtain materials for the maintenance, repair and operation of garages, terminals, etc., as well as for spare parts and shop equipment. It may also be used for highway upkeep, but not for new construction.

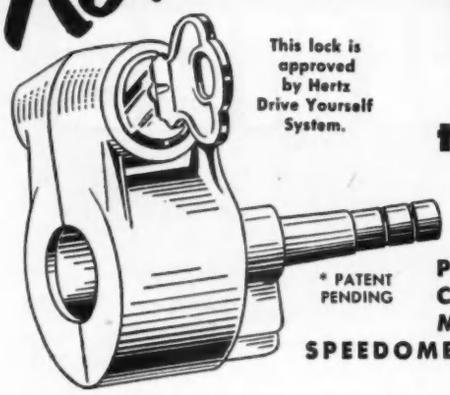
In practice, use of DO-97 does not automatically assure supply of materials but only provides what might be termed a hunting license. The user of the rating must first find a dealer or source of supply where the needed items are to be had.

Use of the rating is simple since prior approval by NPA is not necessary. A distributor merely makes out the order for spare parts, or whatever items are needed, and then writes on the order or an attached piece of paper the phrase: "DO-97, Certified under NPA Reg. 4." This must bear the signature of a proper official of the firm. Firms of any size which use the rating should therefore appoint some one person to handle purchase of MRO supplies.

It is entirely up to an individual or firm whether the rating authority is

(TURN TO PAGE 217, PLEASE)

Kontra's MILE LOCK*



This lock is approved by Hertz Drive Yourself System.

* PATENT PENDING

the BEST NEWS in YEARS!

PROVES FLEET OWNERS AND CAR RENTERS CAN HANDCUFF MILEAGE MOOCHERS; KEEP SPEEDOMETER READINGS HONEST

"An Ounce of Prevention Is Worth a Pound of Cure!"

Nobody "outsmarts" the Kontra's Mile Lock. And it's so easy to install—just clamp one Kontra's Mile Lock over each end of speedometer cable, lock it on with the master key furnished, and you are *guaranteed* that the speedometer reading will be honest!

Here's an accessory that is saving many dollars daily for—trucking, cartage and transfer firms—rental cars and rental truck services—truck delivery routes—used car dealers and many others.

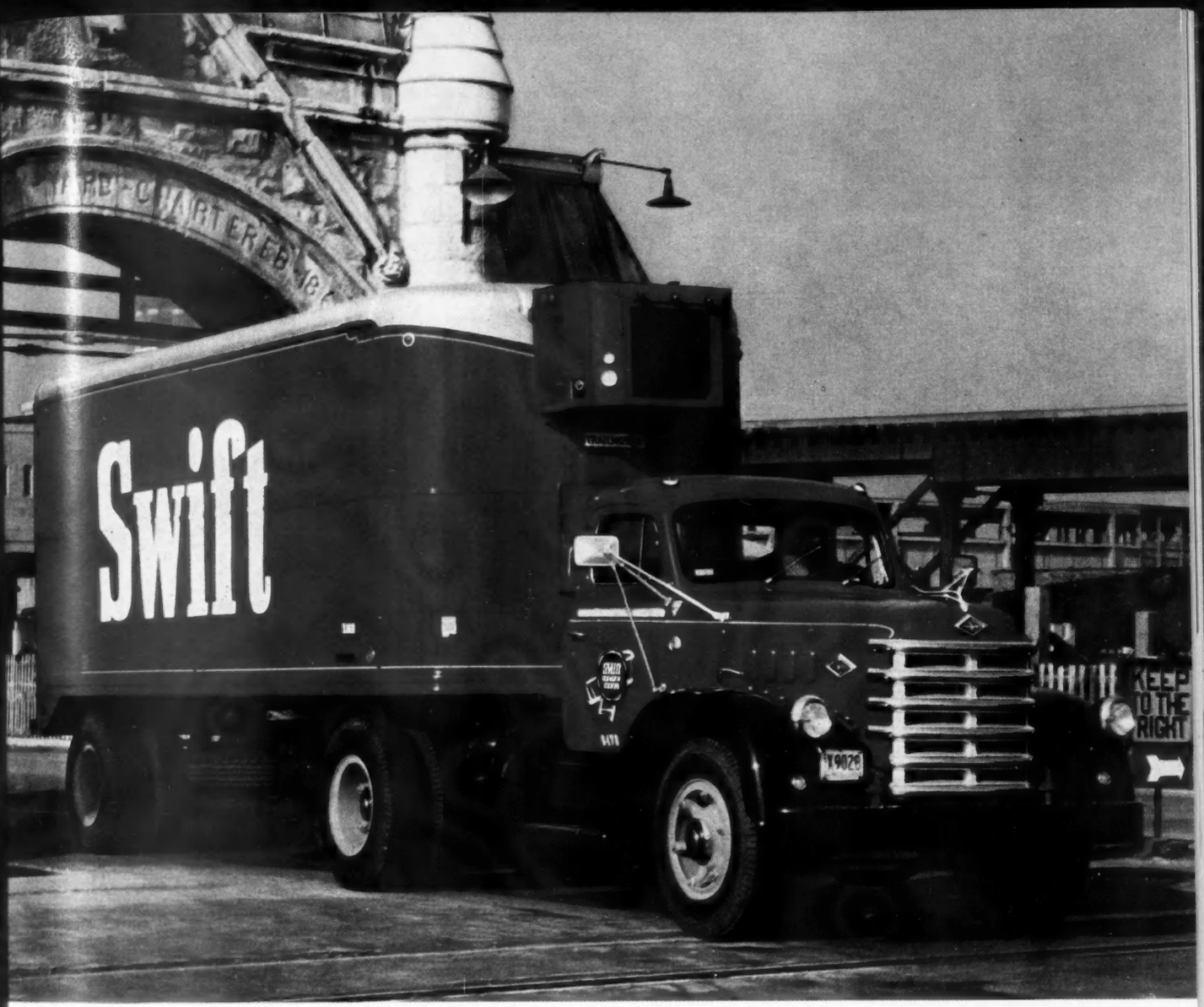
It can save money for you. So...
Don't Delay—Install It Today!

50,000 sets sold *by one man* . . . direct . . . in less than a year . . . to used car dealers, rental firms and fleet owners. Kontra's MILE LOCK is a positive, proven seller . . . a tested performer well past the experimental stage. Kontra's MILE LOCK is a quantity seller to multiple vehicle owners, because it makes every wheel-turn pay off by stopping meter tinkering and shows up mileage padding and "bonus" gas and oil buying.

KONTRA'S MILE LOCK

Write for further information, Dept. C-4

KONTRA'S INC. 327 SEVENTH STREET OSHKOSH, WISCONSIN



Now, more than ever, is the time to buy *DIAMOND T QUALITY!*

THE trucks you buy today may have to keep going years longer than usual. And that means just one thing: you should get the *best* trucks money can buy. Buy quality! Get trucks that are built to perform faithfully, economically and profitably year after year for hundreds of thousands of miles.

That's what you get when you buy Diamond T trucks. They're 100% *truck-built,* completely unhampered by compromises with passenger car design. They embody the finest of modern heavy-duty construction, including a number of major advancements exclusive to Diamond T—yet many trucks are higher in price.

The new heavy-duty series is modern from bumper to tail light—designed to outperform all other trucks of their size and weight ever built. This means fuel economy as well as sustained road speed, and taking stiff grades "in high."

There are eight heavy-duty models, blanketing the tractor-trailer field to 65,000 g.c.w. Four are gasoline powered—three with 162 brake h.p. and one with 190. Four are diesel powered with engines to 300 brake h.p. All have the famous Diamond T No-Draft, Full-Vision Safety Steel Cab.

Don't delay. See your Diamond T dealer—now!

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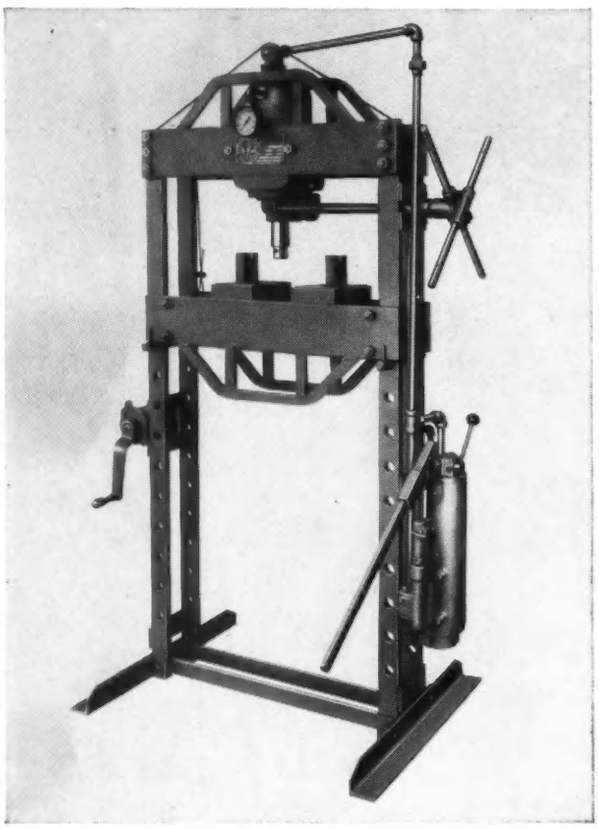
DIAMOND T TRUCKS

THE TRUCK OF LOWEST COST

GIVE RISING SERVICE COSTS

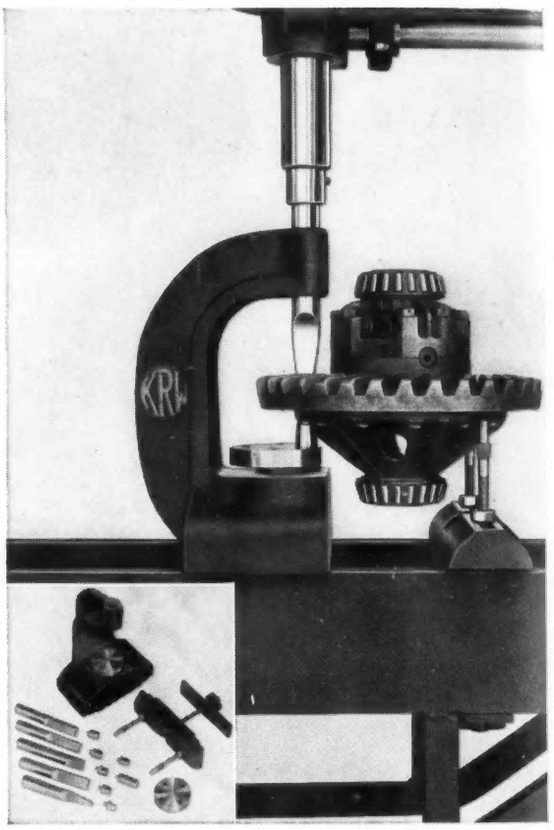
THE 1-2 PUNCH

with this KRW time-saving combination!



1 KRW HYDRAULIC ARBOR PRESS

Will a KRW press save time and increase service profits in your shop? Just look at the jobs it'll do for you and you have the answer: Generator and starter overhaul; straightening bent bumpers and axles; assembling water pumps; installing bushings on shock absorber arms; removing and replacing pinion bearings; trueing work; pushing and pulling jobs; checking alignment of camshafts with V-blocks. Time saved on these and many other jobs will pay the cost of the press in jig time. Available in 25, 50, 60 and 75 ton capacities. Hand operated, air operated or motor driven. Also a full line of Bench type Arbor presses to meet every requirement.



2 RING GEAR RIVETING ATTACHMENT

Save time, save labor, make bigger profits with this KRW ring gear riveting attachment for use with your KRW arbor press. Lets you set ring gear rivets *cold*, prevents loosening in operation that causes customer complaints. Attachment consists of a sub-press, 5 rivet sets and anvils for setting 5/16, 3/8, 7/16, 1/2 and 9/16" rivets, also 2 flat anvils — 1 inch and 2 inch, 2 anvil supporting plates and ring gear leveling support. Each rivet punch is provided with a pin. When changing punch, just slide punch and pin out of lower hole in link and slide another size in place. Just one of the many attachments for a KRW press to cut disassembly and assembly time in half.

Ask your local machinery dealer to quote you prices. Or write Dept. 85 for complete details and prices.

K·R·WILSON

215 MAIN STREET • BUFFALO 3, N. Y.

WORLD'S LARGEST MANUFACTURER OF GARAGE TOOLS AND EQUIPMENT

Washington Runaround

Continued from Page 214

used. But once it is utilized, *the user is bound by restrictions laid down in Reg 4.* This includes establishment of quotas by quarters—but small outfits may buy materials with ratings up to $1,000 per quarter without regard to quota restrictions. Those who make use of the rating authority must keep records of such transactions for the duration of the regulation and for two years thereafter.

The RMO Reg. 4 was made broad enough to provide for replacement of minor capital equipment—not exceeding $750 for one complete capital addition. For instance, a terminal supervisor might need a new item of handling equipment; this could be obtained through a DO-97 rating provided the price did not exceed $750.

Trucking and warehousing and other service establishments were in mind particularly when the NPA drafted the MRO regulation. Inasmuch as they are not directly concerned with production of defense and related goods, priority ratings had previously been unavailable even for replacing the most essential equipment—even though that equipment might have been devoted entirely to handling or servicing of defense orders.

DTA to Use ICC Offices

Unlike the Office of Defense Transportation, which during the last war set up an extensive field organization, the Defense Transport Administration has assigned enforcement and other duties to the field offices of the ICC's Bureau of Motor Carriers.

Under this cooperative plan, the combined field staffs, operating from the 16 Bureau field offices, will perform the following duties:

1—Study and report on the adequacy of motor transport in the various field areas; the available supply and shortages in manpower, and parts for all street and highway transportation.

2—Organize and supervise industry advisory committees.

3—Attend meetings involving street and highway transport problems.

4—Make recommendations as to issuing emergency and temporary special operating authorities.

5—Supervise, regulate and control, in accordance with directions issued by DTA, all forms of highway transportation, including private and for-hire vehicles.

Terminal Problems for P.O.

The major problem confronting the Post Office Dept. as a result of its decision to shift short-haul mail traffic to truck transportation is "to get trucking terminals," according to J. M. Redding, Asst. Postmaster General in charge of transportation. Over the past 100 years, post offices and rail facilities were built connecting. This means new trucking terminals are necessary which will multiply the need for handling the mail.

For the present, as many routes as possible will be put into effect in about 10 major cities, within the limits of existing facilities with new terminals coming as a later development. The solution, Mr. Redding says, "may be a combination of truckers in particular areas setting up a terminal at their own cost."

The truck routes, for which pilot studies have already been undertaken in St. Louis, Boston and other cities will cover a radius of about 200 miles from major postal terminals. This mileage limit, or one day's driving by

(TURN TO PAGE 226, PLEASE)

MARATHON
TRUCK REPLACEMENT PARTS
Marathon truck replacement parts are exact factory duplicates of cylinder heads, clutch plates, brake drums, pumps etc. -- all backed by the experience of a well-established plant, each one specially engineered and precision built to perform as the original equipment. For economy as well as dependable performance always specify MARATHON when you need truck replacement parts.
ENGINEERED AND PRECISION BUILT TO ORIGINAL FACTORY SPECIFICATIONS
CYLINDER HEADS
International & GMC
CLUTCH PLATES
Borg & Beck and Lipe Rollaway
WATER PUMPS
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ASK YOUR JOBBER OR WRITE US DIRECT
MARATHON
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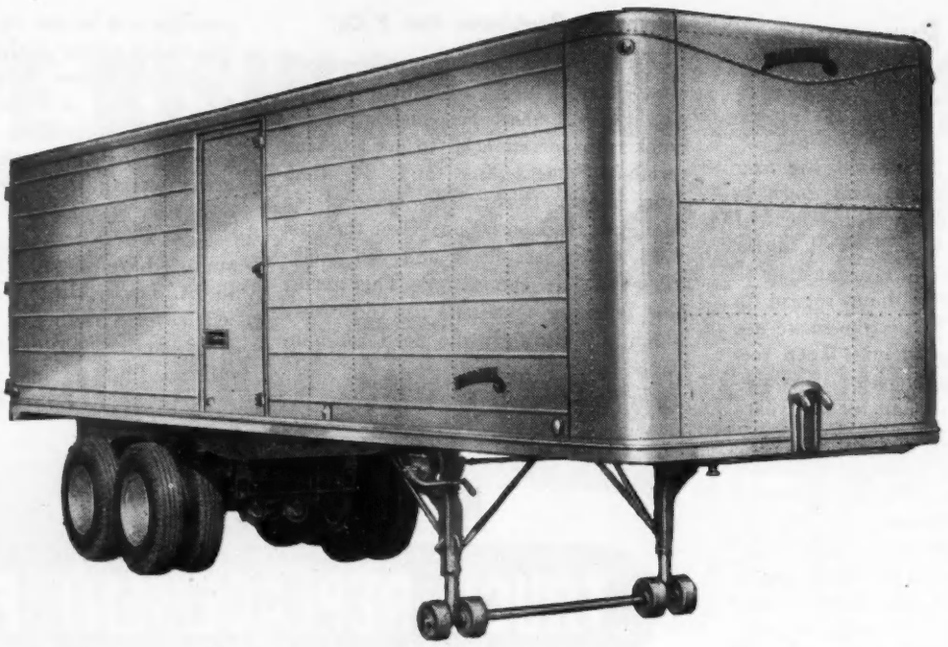


TRAILMOBILE ANNOUNCES NEW Model A Trailer to Meet Today's Rigid Requirements

Lightweight Model A offers increased strength for "round-the-clock" duty with minimum maintenance!

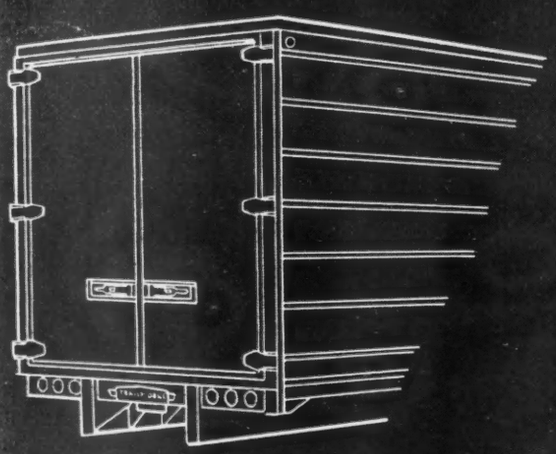
Trailmobile's new aluminum trailer meets today's need for a lightweight unit that can take it! Model A is advance-designed throughout with 15 "years-ahead" features. All vital points of strain are reinforced to take grueling 24-hour-per-day service—yet require a bare minimum of maintenance.

Check these Model A specifications point by point, feature by feature. You will find every construction feature which your own practical day by day experience proves is needed to meet today's conditions, necessary for keeping your trailers on the road. And only in this new Trailmobile will you find extra service so carefully engineered into the trailer providing long life and safety. Truly, here is the new type trailer that today's times demand.

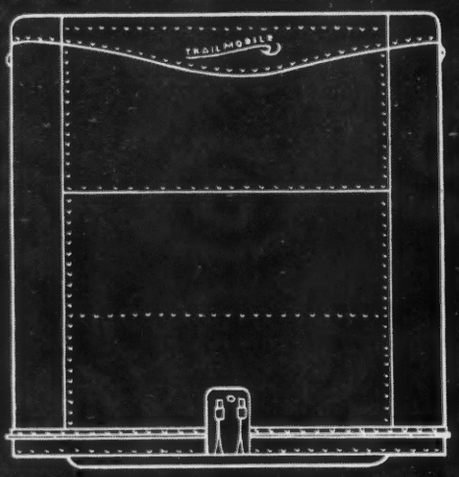
WRITE TODAY FOR DETAILED INFORMATION

T R A I L M O B I L E

31st & Robertson, Cincinnati 9, Ohio • Berkeley 2, California

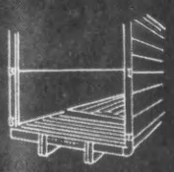


REAR END DESIGN OFFERS MAXIMUM PROTECTION AGAINST LOADING DOCK DAMAGE. NEW DOORS GIVE GREATER RIGIDITY AND POSITIVE WEATHER PROTECTION.

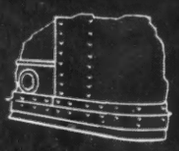


NEWLY DESIGNED TRAILER NOSE IMPROVES APPEARANCE... INCREASES LOADING AREA.

MODEL A OFFERS 15 "YEARS-AHEAD" FEATURES THAT HAULERS WANT MOST!



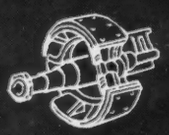
1-1/16" T & G FIR ON 12" BOLSTER SPACING WILL SAFELY SUPPORT LIFT TRUCK FRONT AXLE LOADINGS OF 10,500 LBS.—YET WEIGHS ONLY 3.19 LBS. PER SQ. FT.



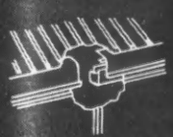
THICK, EXTRUDED ALUMINUM RAIL AT BOTTOM...INTEGRAL DRIP MOLDING AT TOP PROTECTS SIDE PANELS AND LIGHTS FROM DAMAGE.

FOUR DIE-FORMED STEEL BUMPERS, INTERNALLY REINFORCED, PLUS STEEL TAILSHELF PROTECTS REAR. LIGHTS AND REFLECTORS ARE RECESSED FOR PROTECTION.

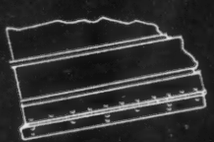
IMPROVED NEW TYPE RUBBER RADIUS ROD BUSHING HAS METAL SLEEVE TO PERMIT EASY REPLACEMENT OF RADIUS ROD PIN.



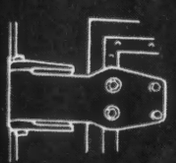
POSITIVE, QUICK, SAFE BRAKING ACTION, RECOGNIZED AS THE SAFEST BRAKE IN THE INDUSTRY.



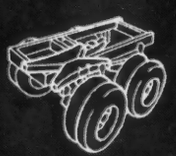
DENT-RESISTING REAR ROOF MEMBER IS INTERNALLY REINFORCED. DRIP MOLDING IS AN INTEGRAL PART OF ROOF MEMBER.



ALCLAD SIDE PANELS RESIST CORROSION...REMAIN BRIGHT...CAN BE REPLACED WITHOUT REMOVING RUB RAIL.

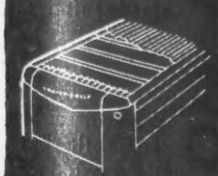


CLOSE FITTING HINGE BUTTS PROTECTED BY BUMPERS. STURDY HINGES SECURELY FASTENED TO DOOR FRAME —EASILY REPLACED WITHOUT DISASSEMBLING DOOR.

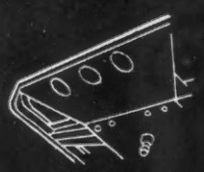


ONLY 2 MOVING PARTS IN TANDEM UNIT...LESS MAINTENANCE...BALANCED BRAKE ACTION...LESS WEAR ...LONGER BRAKE LIFE.

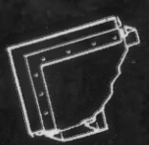
TUBULAR AXLE RESISTS STRAIN FROM EVERY DIRECTION. TAPERED ALLOY STEEL SPINDLES.



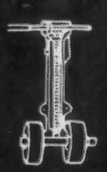
NEW ROOF BOWS HAVE 60% GREATER RESISTANCE TO DEFLECTION. ROOF SHEETS RIBBED FOR GREATER STRENGTH.



5/16" UPPER FIFTH WHEEL PLATE ELIMINATES BUCKLING...PROVIDES STRONGER MOUNTING FOR KING PIN.



EXTRUDED ALUMINUM DOOR-FRAMES; FLASH WELDED AT CORNERS FOR GREATER RIGIDITY. WEATHERPROOF SEAL IN EXTRUDED SLAM STRIP SEALS OUT MOISTURE, DUST.



INVERTED LANDING GEAR SCREW AND NUT OPERATE IN CONSTANT BATH OF OIL... REDUCES FRICTION. 2-SPEED GEAR BOX SAVES TIME AND EFFORT.

SILICO MANGANESE SPRINGS. WIDER SPRING LEAVES GIVE GREATER BEARING AREA. SPRINGS ROLL IN HANGERS TO AVOID EXCESS WEAR.

Bay Packets

Victor Lynn Lines retains Chesapeake Bay boats as auxiliary cargo units

By Dick Moore

THIRTY years ago, the steamboat was still king on Maryland's busy Chesapeake Bay. But today, only three regularly scheduled boat services remain. Ironically enough, one of them owes its extra lease on life to the big trucks.

Started With Boats

Victor Lynn Lines, Inc., Baltimore, Md., began in 1921 as a steamboat freight carrier between Baltimore and Salisbury, Md. It moved rapidly into the truck field, however, and became primarily a motor transportation firm. But it kept its boats.

Victor Lynn's attachment for boats is keeping alive the tradition of close to a century. Years ago, steamboats of all sizes and description poked their prows into hundreds of big and little ports on the Chesapeake Bay and its thousands of miles of winding tributaries. Trucks have changed all that. Now Salisbury is the only city on the long Delmarva Peninsula that can boast of night boat service to Baltimore.

There are no passengers on the Victor Lynn boat. Fork trucks and pallets have eased the task of the stevedore. On board, there's diesel drive instead of steam, and instead of the resonant whistle, there's only the dinky hoot of an air horn.

Victor Lynn Lines' oldest boat is the *Victor Lynn*, a 350-ton freight boat. Her origin is lost but the men who run her say she's probably 60 years old. She's 150 feet long and she succeeded the company's first boat, also the Victor Lynn which burned shortly after the firm started operations in 1921.

The Lynn's sister ship is the Clio, a stubby 109-foot long freighter, built in 1908 in Philadelphia. She's diesel too, but she's single screw whereas the Lynn has two propellers. The Clio is 163 tons registry. Both are iron hulled.

These boats haul pretty much the same cargoes which the great Chesapeake Bay fleet once carried. It's groceries, produce, seafood and bulky items. Tons and tons of nylon move

TESTING *Proves Performance!*

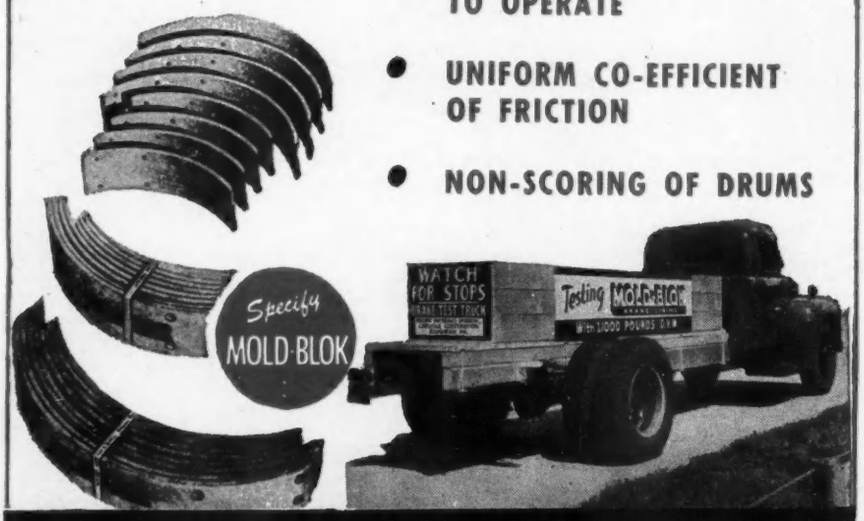
Day and night, around the clock, Pennsylvania's hills are the testing ground for MOLD-BLOK brake linings and blocks.

Under actual driving conditions, in all types of weather, the testing goes on with 21,000 pounds, G.V.W. Only the most modern equipment is used to prove the correct application for every truck, trailer or bus.

Is it any wonder why MOLD-BLOK is used with confidence on thousands of heavy duty units throughout the country? And is giving longer, more economical service under the most difficult conditions?

THIS IS PROVEN PERFORMANCE!

- LOWER COST PER MILE TO OPERATE
- UNIFORM CO-EFFICIENT OF FRICTION
- NON-SCORING OF DRUMS



MOLDED MATERIALS DIVISION
OF
CARLISLE CORPORATION
RIDGWAY, PA.

Are Part of Trucking Fleet

through the Salisbury terminal from nearby Seaford, Del., where the duPonts make the stuff.

The Victor Lynn's crew jokingly refers to its vessel as an old man's home. Mostly they're veterans like Capt. Charlie Willson, now 71. He and the rest of the hands on board are cat-eyed when it comes to taking their ship down the torturous Wicomico River channel on a dark night or in a heavy fog. Like their more modern brothers at the wheels of tractor trailers, they have their problems.

From Salisbuy to Baltimore is about 110 miles by water. Overland, its about 135 miles for the big trucks but their running time is only five hours or so compared with the boat's all night trip.

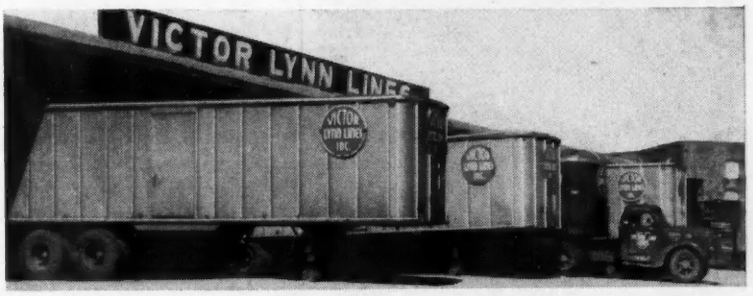
Usually, the Lynn shoves off at Baltimore or Salisbury about 6 p.m. Once down the 28-mile long Wicomico River out of Salisbury, the Lynn shift's her course about westward through Tangier Sound, then moves up the Chesapeake. Old timers like Capt. Irvin Austin in the wheelhouse rock on a wooden stool and assures you that the Lynn is well able to take those 15-foot waves over her bow. It can get awfully rough on the Chesapeake, but motor trucks and their dizzy pace are not for Capt. Austin.

By dawn, the Lynn is well up the Patapsco River, bustling through Baltimore's heavy marine traffic. All around, big tugs are throwing their weight around. A big ocean freighter slips by. The night boat from Norfolk, the Old Bay Line's packet, loaded with freight and passengers moves into the harbor. Aside from the Victor Lynn, the Old Bay Line's City of Norfolk and City of Richmond and the Baltimore, Norfolk and Carolina Steamship Company's two freight boats are the last of their kind on the Chesapeake.

After some churning and backing, the Lynn slips into her berth at the company's wharf. The cargo is moved off on to waiting trucks. A good deal of the boat traffic here is destined locally, both in Baltimore and Salisbury. Some of it goes into larger trucks for longer hauls and out of Baltimore. Victor Lynn has an interchange with other lines in Baltimore.

Before the unloading gets into full swing, though, there's breakfast in the messroom on the top deck, aft of the pilot house. Then the crew turns in for a day of sleep; no more work until late afternoon as the loads for the return trip begin to arrive.

(TURN TO NEXT PAGE, PLEASE)



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❶ At least 3 hardened steel threads always engaged in worm drive action in slotted band.

Clamp unscrews easily but will never work loose.

❷ Worm threads cannot touch or damage hose—curved saddle assures uniform sealing pressure around complete circumference.

- Long Life — use again and again
- Integral construction — no parts to lose
- Stainless steel bands resist corrosion
- Two types—screwdriver slot or thumb grip

WRITE TODAY for FREE SAMPLE

ANOTHER BREEZE PRODUCT

"Aero-Seal"®
HOSE CLAMPS

BREEZE CORPORATIONS, INC.
45 South Sixth Street, Newark, N. J.

Victor Lynn

(Continued from Page 221)

Does It Pay?

How does all this add up on a dollars and cents basis for the Victor Lynn company? Here's a company with about 200 trucks, doing about $2,000,000 worth of business a year. Can it afford to fool with water transportation as a tie-in?

The question is frequently debated by company officials. They are reluctant to give cost comparisons for the simple reason they have no definite figures, they say.

Boats have been a part of the operation for so long that doing away with them completely will be a major step for the company's directors. Right now, the Clio is laid up with an overhaul staring her owners in the face.

The boats can haul bulky cargoes, the kind which if carried on trucks might dictate a lighter load than the 15 tons of small, heavy freight, which one of its trucks could carry.

C. M. Hogarth, the company's general manager, says the Clio, under favorable conditions, can haul the equivalent of five 15-ton truck loads. The Lynn can carry twice that much. Balanced against that is the eight-man crew for each boat on the 110-mile water route as against say five truck drivers or 10 drivers plus the cost of truck maintenance and operation on the 135-mile overland route against the boat's similar costs.

(TURN TO PAGE 224, PLEASE)

Captain Charlie Willson Skipper of the Victor Lynn

DAYTON WHEELS

are distributed through National Wheel & Rim Association Members

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ALBANY, N. Y.....Wheels Incorporated
ALBUQUERQUE, N. M.....Wheels & Brakes, Inc.
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OMAHA, Nebr.....Morgan Wheel & Equipment Co.
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PEORIA, Ill.....Peoria Wheel & Rim Company
PHILADELPHIA, Pa.....Kay Wheel Sales Company
PHILADELPHIA, Pa., Thomas Wheel & Rim Co., Inc.
PITTSBURGH, Pa.....Wheel & Rim Sales Company
PORTLAND, Oregon.....Auto Wheel Service
PORTLAND, Oregon.....Six Robblees, Incorporated
RALEIGH, N. C.....Carolina Rim & Wheel Company
RICHMOND, Va.....Dixie Wheel & Rim Company
ROCHESTER, N. Y.....Frey, The Wheelman, Inc.
ST. LOUIS, Mo.....Borbein, Young & Company
SALISBURY, Md.....R. W. Norris & Sons
SALT LAKE CITY, Utah, Henderson Wheel, Rim Serv.
SAN ANTONIO, Texas, Southwest Wheel & Equip. Co.
SAN FRANCISCO, Motor Rim & Wheel Serv. of Calif.
SEATTLE, Wash.....Six Robblees, Incorporated
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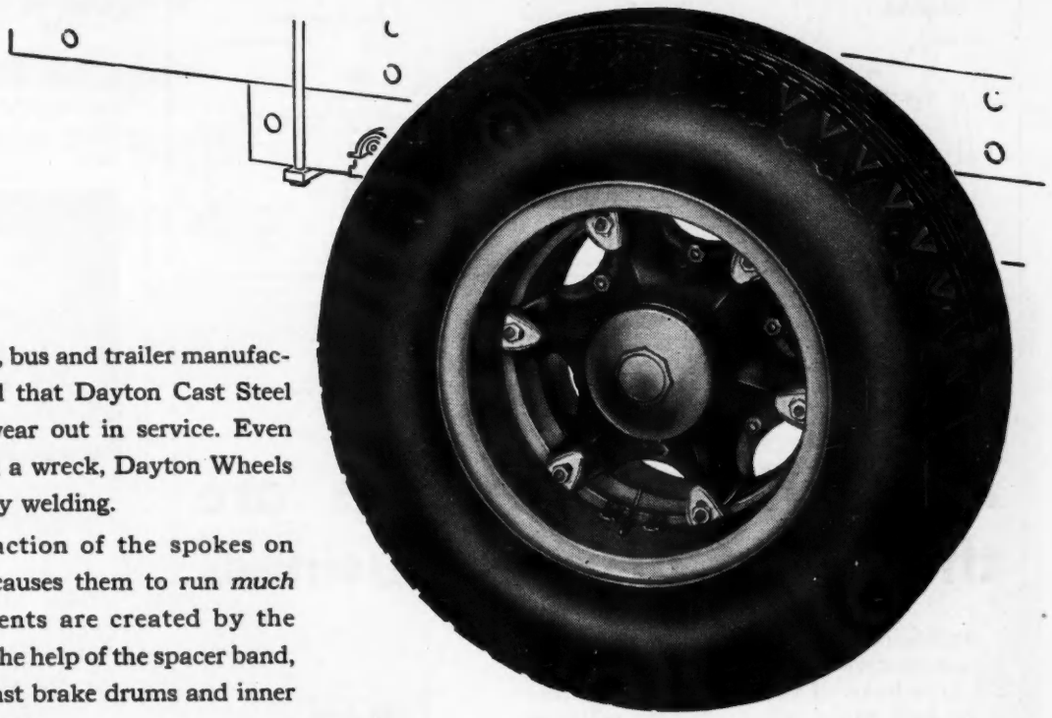
DAYTON WHEELS

cost less for service than any other wheel!



The leading truck, bus and trailer manufacturers have found that Dayton Cast Steel Wheels do not wear out in service. Even when damaged in a wreck, Dayton Wheels can be repaired by welding.

The fanning action of the spokes on Dayton Wheels causes them to run *much cooler*. Air currents are created by the spokes and, with the help of the spacer band, are directed against brake drums and inner walls of the inside tires.

Increased pressure exerted by each of the rim nuts on the clamp bevel against the demountable rim prevents rim slippage and consequent uneven tire wear.

Dayton Wheels help to lower operating costs, too, and most smart operators have taken advantage of these savings for many years. Specify Dayton Wheels for new equipment and replacements.

THE DAYTON STEEL FOUNDRY COMPANY, DAYTON 1, OHIO

Dayton SPOKE TYPE CAST STEEL Wheels

Dayton Brake Drums
Drums assembled to the wheels at the factory give more perfect concentricity.

Dayton 5th Wheels
Standard equipment on many trailers. Quick coupling. Positive operation.

Dayton Landing Gears
Made in both hydraulic and mechanical types.

Victor Lynn

Continued from Page 222

Hogarth feels that the boat service could be dropped without injury to the overall operation. On the other hand, the firm has its money tied up in the equipment and as long as it is usable the company is probably money in pocket from the investment angle.

Right now, with the Clio laid up, the Lynn is making three round trips weekly between the Baltimore and Salisbury terminals. That means extra trucks are needed to haul the freight the Clio had been handling. Hogarth thinks that data he is accumulating on the substitution will show the boat end of the operation in its true light.

With the Clio off, some expenses have gone up, such as gasoline and ferry tolls. These and other added costs may still be less than the overall operation of the boat. On the other hand, the Lynn is a larger boat; her cargo deck is roomier for those bulky freight items. She may be more than paying her way.

Sentiment play a large part in this boat operation. Shippers with a nautical bent have consistently refused to see Victor Lynn solicitors. Then, by chance, they learned about the boat operation and their doors were opened wide. Of course, there's not enough of that to get rich on. But it's a good public relations angle for the company.

Local shippers at Salisbury and Baltimore get a cheaper port-to-port rate. Food wholesalers give that a good play but its a minor part of the company's overall operation.

Hogarth is a trucking man himself. He has no sentiment for departed steamboats. The trucking business is highly competitive and the only thing any truck line has to sell is its service. Quite likely, when the boats can no longer carry their weight, a change will be made. When the new Chesapeake Bay bridge is finished, that could well be the last straw for the once prosperous night boat from Maryland's Eastern Shore.

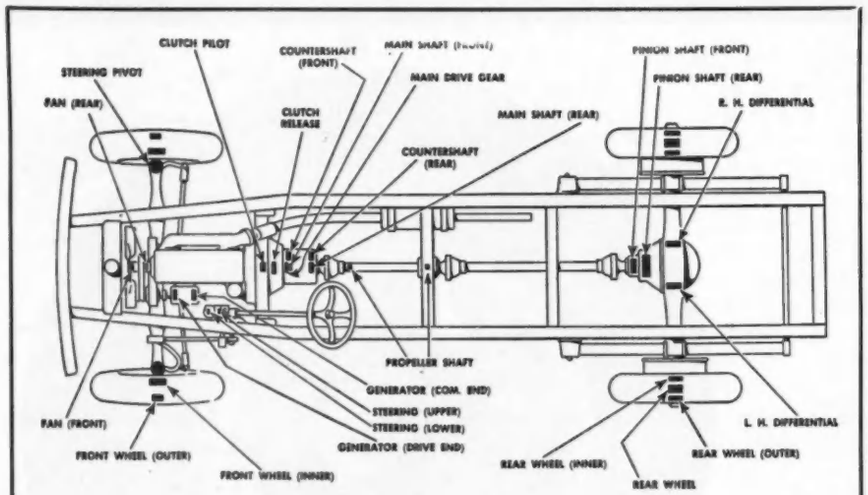
A fork lift and pallets help move the freight from ship to truck or truck to ship.

Victor Lynn has terminals in Salisbury, Jersey City, Philadelphia, Wilmington, Del., Baltimore, and Milford, Del. Its operation is basically a triangle, linking Salisbury, Baltimore and Jersey City. Its trucks and boats carry off the products of the Delmarva Peninsula: chickens, seafood, canned goods, frozen foods and small manufacture products.

Return trips to the peninsula bring in some raw materials; some merchandise. More than half of the traffic is outbound — off the peninsula, which stretches from Wilmington, Del., to Cape Charles, Va.

The watermen on these old boats know their star has set. They're just living out their days. On moonlight nights, the big diesel trucks roll over Eastern Shore roads. Out on the Chesapeake, the Victor Lynn pokes along, a half century away from the whine of multi-wheeled giants on the road. Those wheels ran the steamboats off the Chesapeake.

On the Victor Lynn every night, though, they tell you: "Those trucks keep us going out here."

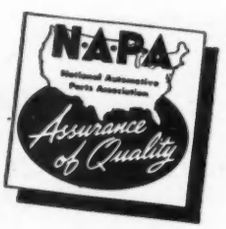


Anti-Friction Bearings are the Heart of your business

Anti-friction bearings are the very heart of automotive equipment and, therefore, the very heart of your business. Whether it be ball, taper roller, straight roller or thrust bearing, your customer depends on *you* for full anti-friction bearing service.

Federal has just issued a combined catalog listing all anti-friction bearing data on all passenger cars and 96% of all trucks registered from 1932 to 1950. With it—and a complete range of anti-friction bearings—you can become automotive bearing headquarters for your local community.

This anti-friction bearing service is available through your NAPA Jobber. Ask him today for the new Federal catalog entitled "Complete Anti-Friction Bearing Data," or write us on your letterhead.



Order FEDERAL BALL BEARINGS from your NAPA Jobber or Warehouse

FEDERAL BALL BEARINGS

THE FEDERAL BEARINGS CO., INC., Poughkeepsie, New York

The Most Complete Line of Ball Bearings for the Automotive Industry

Quality Since 1908

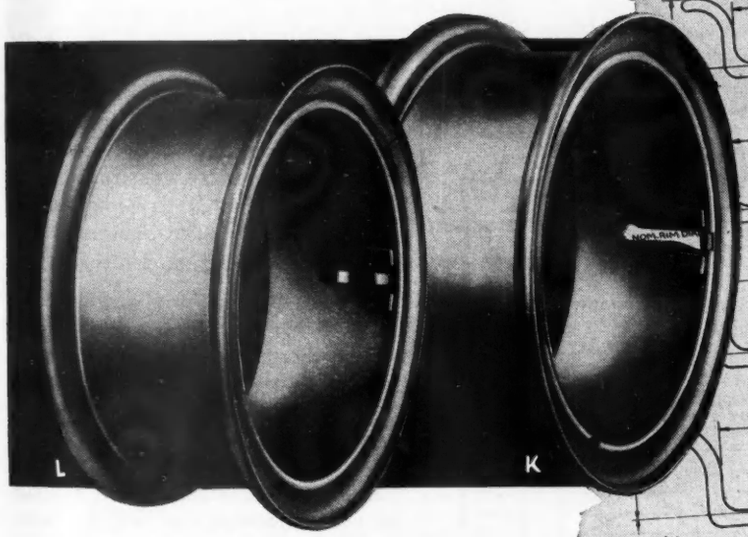
Goodyear 70 and 5 wide-base rims

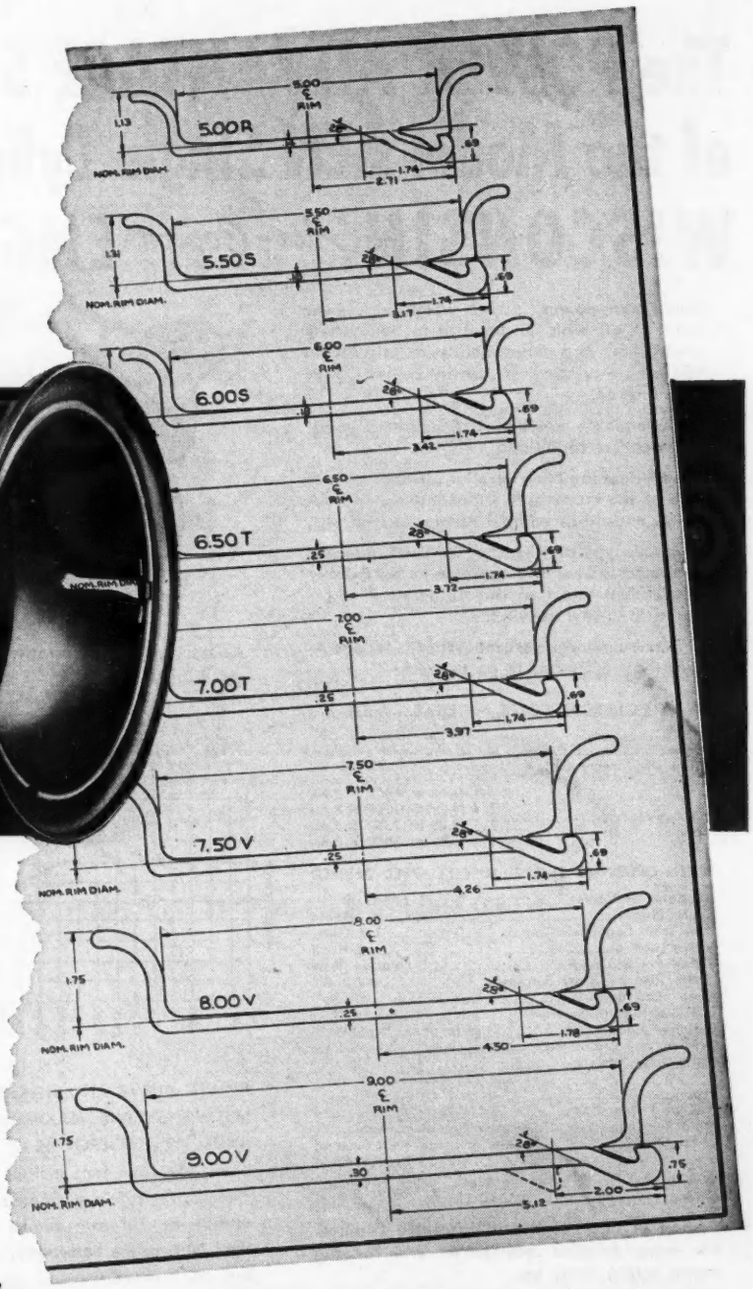
The only complete line of modern wide-base truck rims

of uniform design

offering you the advantages of

minimum weight
adequate strength
ease of operation





Made to an approved standard of the Tire and Rim Association

More than six million Goodyear Rims are now in service. This general acceptance and usage of Goodyear Standard Wide-Base Rims on the latest truck models is conclusive proof of their outstanding performance in giving greater tire mileage and better service.

Two types in all standard sizes

Minimum weight and adequate strength assure maximum tire mileage.

GOODYEAR RIMS

We think you'll like "THE GREATEST STORY EVER TOLD"—Every Sunday—ABC Network

Washington Runaround

(Continued from Page 217)

a crew, is considered the most economical use of trucks for mail hauling.

New Forwarder Rules

The ICC has issued proposed rules governing the utilization by freight forwarders of the services of motor common carriers. These rules will put into effect the new law which gives freight forwarders common carrier status rather than shipper status in rate matters. The rules are scheduled to become effective on Sept. 20 and deal with filing of contracts between freight forwarders and common carriers.

Briefly, the proposed rules specify the filing of three copies of detailed contracts with the ICC. Interested parties have until April 12 to file comments with the ICC.

Terminals Come Easier

Reversing its original stand, NPA has now ruled that construction of terminal facilities for trucking companies or common carriers may be started without specific government authorization—provided that the carrier will be the sole occupant. The same interpretation of M-4 applies as well to hangars for storage, maintenance and repair of commercial aircraft. However, NPA approval is required for construction of public garages and other public parking facilities.

These were part of a series of rulings by NPA in an attempt to draw a clear cut line as to what did and did not require NPA permits in a number of confusing instances. In similar rulings, NPA decided (a) that approval is required for cold storage locker plants and farmer cooperatives handling food or farm products but not for food processing plants; (b) that where a manufacturuer of consumer goods wholly owns a subsidiary distribution company that subsidiary must obtain a permit to build a warehouse for storage of those products; (c) that a warehouse for storage of capital goods such as business machines is exempt; and (d) that gasoline dispensing equipment in connection with a building for company use (and not for public service) need not be included in estimating cost — although excavation and other installation costs must be included. Generally, construction costing $5,000 or less needs no approval.

Fuel Situation Eased

The Petroleum Administration for Defense has established an allocation system for tetraethyl lead fluid, which was substituted for an earlier proposal for octane ceilings on motor fuel. Cuts in the use of ethyl fluid are slight and are not expected to result in any appreciable cut in gasoline quality. Ceilings on octane ratings may still be necessary if defense needs continue to climb, says PAD.

Shortage Miscellany

Defense needs and limitation orders are also cutting into supplies of packaging materials. Steel strapping is so tight that NPA is likely to order end-use limitations. Manufacturers of bottle crates have told NPA that further reduction in metal components will force a shift to all-wood crates. Controls still threaten duck and webbing items because of increasing demands for truck covers, conveyor belts, etc. NPA says that while paperboard containers are in tight supply, the situation is not yet critical and no controls seem necessary at the present time. The

(TURN TO PAGE 228, PLEASE)

The POWER ADVANTAGE Story of the Model AEN Single Cylinder WISCONSIN *Air-Cooled* ENGINE

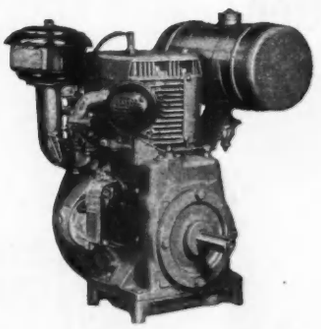
Here's more power . . . less weight . . . lower cost . . all with no sacrifice in heavy-duty construction and serviceability in this Model AEN single-cylinder Wisconsin Engine. Features include:

1. Dependable air-cooling under all climatic and weather conditions.

2. Self-cleaning tapered roller bearings at *both* ends of the crankshaft withstand either side-pull or end-thrust without danger to bearings.

3. Rotary type high tension OUTSIDE Magneto with Impulse Coupling operates as an entirely independent unit that can be serviced or replaced in a few minutes.

4. Maximum torque at usable speeds for equipment that really has to go to work.



Model AEN 4-cycle single cylinder standard engine.

SPECIFICATIONS, MODEL AEN

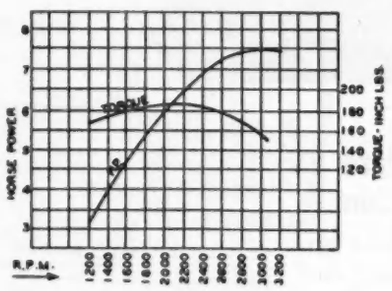
Bore	3"
Stroke	3¼"
Piston Displacement	23 cu. in.
Horsepower	5.1 H.P. at 1800 R.P.M. 6.4 H.P. at 2200 R.P.M. 7.2 H.P. at 2600 R.P.M. 7.5 H.P. at 3000 R.P.M.

WHEN ORDERING ENGINE SPECIFY SPEED DESIRED

Diameter of Valves	1-5/16" O. D.
Spark Plug size	18 mm. Metric
Fuel Tank Capacity	1.7 Gals.
Valve Location	L-Head
Piston Pin Diameter	¾" Floating Type
Conn. Rod — Steel Forging	Length 8"
Conn. Rod Bearing	1⅛" x 1¼"
Oil Required in Reservoir	3 Pts.
Cylinder Head	Aluminum, Removable
Cylinder — Crankcase	Cast Iron
Valve Seat Inserts	Nickel Chrome Molybdenum Iron
Piston	Aluminum Alloy
No. of Piston Rings	4
Main Bearings	Tapered roller of generous size
Crankshaft	Counterbalanced Heat Treated Drop Forging

Weight-Lbs.	Net	Crated
Standard Engine	110 Lbs.	135 Lbs.

Second of a series about Wisconsin Engines. For more detailed information and for the entire series, write us.



POWER CURVE AND HORSEPOWER LISTING SHOWS MAXIMUM DYNAMOMETER HORSEPOWER OF ENGINE complete with fan, muffler and air cleaner. For continuous heavy-duty operation do not rate engine at more than 80% of the horsepower shown at any given speed.

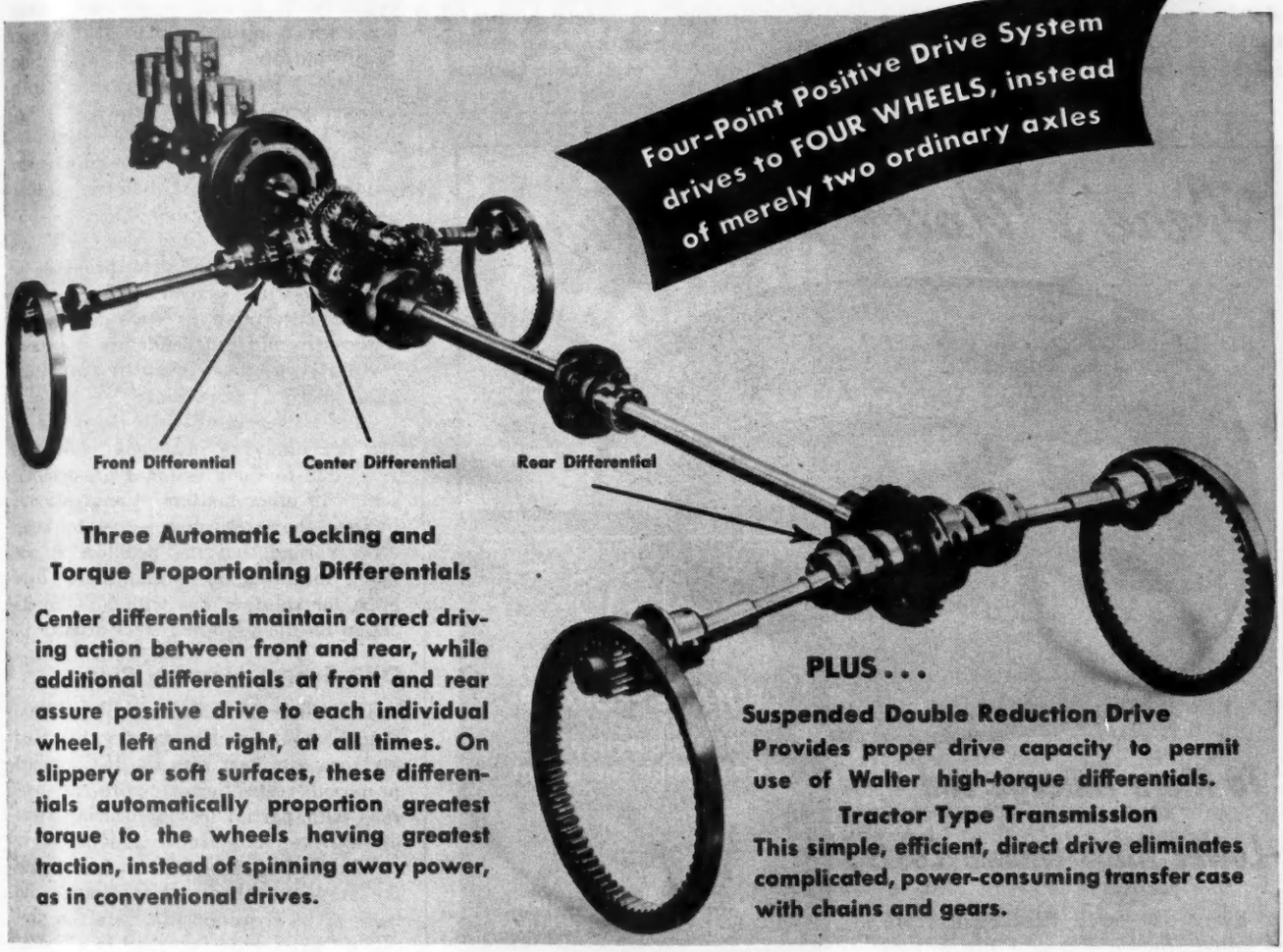
WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

MILWAUKEE 46 WISCONSIN

Any truck has Traction on Good Surfaces...

Only Walter Snow Fighters maintain 100% TRACTION on Slippery Surfaces!


Four-Point Positive Drive System drives to FOUR WHEELS, instead of merely two ordinary axles
Front Differential
Center Differential
Rear Differential

Three Automatic Locking and Torque Proportioning Differentials

Center differentials maintain correct driving action between front and rear, while additional differentials at front and rear assure positive drive to each individual wheel, left and right, at all times. On slippery or soft surfaces, these differentials automatically proportion greatest torque to the wheels having greatest traction, instead of spinning away power, as in conventional drives.

PLUS . . .

Suspended Double Reduction Drive

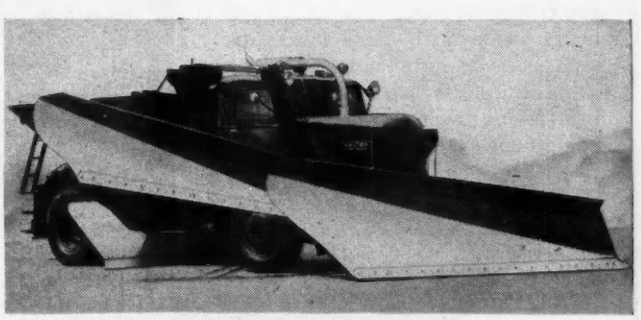
Provides proper drive capacity to permit use of Walter high-torque differentials.

Tractor Type Transmission

This simple, efficient, direct drive eliminates complicated, power-consuming transfer case with chains and gears.

Eliminate wheel-spinning, side-slipping or stalling on snow and ice

TRUCKS that lose traction, or auxiliary equipment that lacks speed and control, have limited usefulness on snow and ice. Only Walter Snow Fighters are specially designed, built and equipped to provide great engine power, 100% traction, high speed and rugged stamina to handle any winter conditions—from icy, hard-packed roads to towering drifts. See the latest Walter Snow Fighters at your distributor—or write us for literature.



ONE UNIT DOES FOUR JOBS! 240 h.p. Walter Snow Fighter equipped with one-way front plow, right speed wing, center scraper blade and 10-ton capacity sand and chemical spreader body. Outstanding for practically every winter condition.

WALTER
4-POINT POSITIVE DRIVE
SNOW FIGHTERS

WALTER MOTOR TRUCK CO.
1001-19 Irving Ave.
Ridgewood 27,
Queens, L. I., N. Y.

Washington Runaround

Continued from Page 226

tin can is also slated for further restrictions on end-use. Makers of glass containers are urging NPA to issue an order requiring simplification and standardization. Use of burlap and canvas bags is increasing, but demands for burlap are being met.

New Absorption Proposal

While pricing methods are of secondary importance in the present seller's market, efforts to clear up the legal status of delivered pricing and freight absorption continue unabated. In Congress, Sen. McCarran, Dem., Nev., and seven other Senators have introduced legislation (S. 719) which would legalize freight absorption by declaring that price differentials made in "good faith" to meet equally lower prices of competitors provide a complete defense to charges of discrimination that may be brought by the Federal Trade Commission. Similar legislation (H.R. 2820) has been introduced in the House by Rep. Walter, Dem., Pa.

At FTC, it will be remembered that the 3½-year-old price-fixing charge aimed at the steel industry is still pending, despite the fact that the industry dropped its basing point method of pricing following the Supreme Court's outlawing of a similar method in the now-famous Cement decision.

Last year, the FTC rejected a steel-industry proposed cease and desist order which would have ended this case. Steel industry attorneys negotiating with the FTC staff have come up with another proposed order which it is believed FTC will accept.

This new proposal supposedly guarantees the legality of delivered prices and freight absorption, since it contains a section which put FTC on record as "not acting to prohibit or interfere with delivered pricing or freight absorption as such and when innocently and independently pursued, regularly or otherwise, with the result of promoting competition."

Legislative effort to solve this problem are not likely to bear any fruit this year, due to Congressional pre-occupation with other matters. Congressional interest, however, does serve to keep FTC warned that the problem is not being forgotten on Capitol Hill. Best hope for solution lies with FTC in its action on the proposed steel order.

OVR Scores Hearing Rule

The Office of Vocational Rehabilitation, Federal Security Agency, has filed a vigorous protest with the ICC against proposed restrictions to prevent persons with partial loss of hearing from driving interstate trucks and buses.

The petition asks ICC to investigate the matter further and to change the basis of its requirements from the proposed "unscientific" method to a test of actual hearing ability, if it finds any such hearing standard essential at all.

The ICC proposal, OVR says, "would prevent persons whose hearing is not as good as '10 over 20' in each ear from driving interstate trucks and buses. This, roughly, means that a driver, to meet the proposed ICC requirements, would have to be able to hear a conversational tone at 10 feet that a person with normal hearing could hear at 20 feet."

OVR further points out that "this requirement completely ignores the possibility of correction with hearing aids and would force drivers who need hearing aids off the road.

OVR is also preparing legislation for submission to Congress which would prohibit discrimination against the handicapped in the future.

(TURN TO PAGE 232, PLEASE)

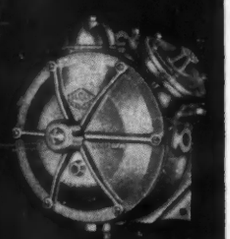
Here's Your Answer...

Algas Installation on Hertz Driveurself Truck Stations.

BUTANE ALGAS PROPANE
NATURAL GAS

BUTANE-PROPANE
Carburetion
Conversion Equipment

1400 MIXER VERTICAL



1500-E CONVERTER WITH ELECTRIC PRIMER

To More Mileage and Lower Maintenance Costs!

Every day more fleet owners are converting to Butane-Propane fuel because test after test have given the same answer - *More Mileage and Lower Maintenance Costs!* A big percentage of these conversions are being made with ALGAS equipment because more than 18 years of successful performance is the record behind every piece of ALGAS equipment.

It makes no difference what your carburetion conversion needs may be, ALGAS equipment will meet all your requirements.

AMERICAN LIQUID GAS CORPORATION
1109 Santa Fe Avenue
Los Angeles 21, California

MAIL THIS COUPON NOW

American Liquid Gas Corp.
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Please send complete information on ALGAS equipment for bus or truck operation.
Name_____
Firm_____
Address_____
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" THE BENDIX-WESTINGHOUSE
DISTRIBUTOR WAS CERTAINLY RIGHT . . .

The Added Efficiency Pays For Itself!"

THE BEST BRAKE IS AIR

Judge braking efficiency on a dollars and cents basis—what it means to you and your business in terms of hard cash savings and profits. When you look at it this way, the records regularly rolled up by Bendix-Westinghouse Air Brakes are amazing! Maintenance and parts replacement costs are cut to the bone, trucks aren't laid up for expensive overhauls and adjustments—they *stay* on the job hauling valuable pay loads. Add to this the extra safety, positive braking control and faster trip speeds and you can see why enthusiasm runs high for these mighty brakes. Whether you operate one truck or one hundred, take advantage of this extra efficiency—specify dependable, economical Bendix-Westinghouse Air Brakes, world's safest power-to-stop!

BENDIX-WESTINGHOUSE
GENUINE
AIR BRAKES
REG U.S PAT. OFF.

THE BEST AIR BRAKE IS
Bendix-Westinghouse
BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY
ELYRIA, OHIO

Labor Relations Information Sources

The Federal Government Departments will give you free or almost free, with few exceptions, all the labor relations information you need

IN Washington, D. C., a staff of experienced government writers are turning out publications on a mass-production basis for management. These books cover every subject from collective bargaining to wage stabilization.

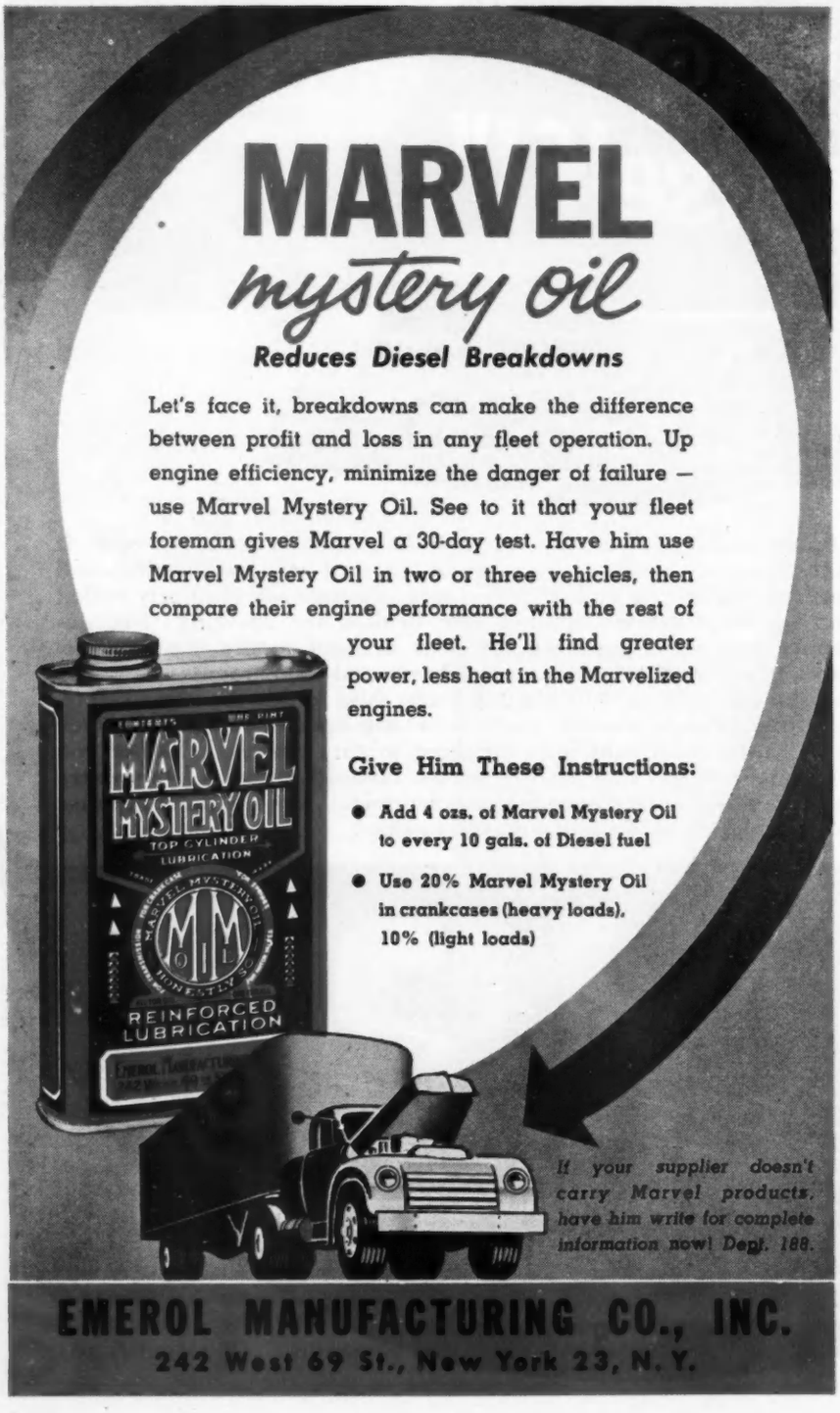
For example, the 380-page booklet, "Problems and Policies of Dispute Settlement and Wage Stabilization," is especially interesting for management these days due to the Defense Production Act, 1950, with regards to the "Wage-Price" controls now in effect. This important government booklet discusses such problems as: voluntarism and compulsion in dispute settlement, the development of wage-price policies, an appraisal of wage stabilization policies, relation of wage control to manpower problems, enforcement, etc.

Another important booklet consisting of 100 pages is a layman's guide called "Federal Labor Laws and Agencies." It discusses such issues as the Taft-Hartley Act, (LMRA, 1947), the Fair Labor Standards Amendments of 1949, Social Security Act, Workmen's Compensation, etc. This particular booklet is one of the most important and practical publications ever issued by a government department for management.

They publish these interesting and informative booklets solely to assist management (probably part of the tax dollar). In any event, it is essential to know what government departments issue and what publications are available. Management should not formulate an opinion that government legal mumbo-jumbo is dull or uninteresting, because these booklets are well compiled and contain lots of down-to-earth information. In any event, management should obtain a few or all of them depending upon actual need. There is no charge for any of the following publications:

From: Office, Bureau of Labor Statistics, U. S. Department of Labor, Washington 25, D. C.

1. Booklet No. 908, Union Security Provisions.
2. Booklet No. 908-2, Vacations, Holidays and Weekend work.
3. Booklet No. 908-3, Incentive Wage Provisions: Time Studies and Standards of Production.
4. Booklet No. 908-4, Apprentices and Learners.
5. Booklet No. 908-5, Discharge, Discipline and Quits: Dismissal Pay Provisions.


MARVEL
mystery oil
Reduces Diesel Breakdowns
Let's face it, breakdowns can make the difference between profit and loss in any fleet operation. Up engine efficiency, minimize the danger of failure — use Marvel Mystery Oil. See to it that your fleet foreman gives Marvel a 30-day test. Have him use Marvel Mystery Oil in two or three vehicles, then compare their engine performance with the rest of your fleet. He'll find greater power, less heat in the Marvelized engines.
Give Him These Instructions:
● Add 4 ozs. of Marvel Mystery Oil to every 10 gals. of Diesel fuel
● Use 20% Marvel Mystery Oil in crankcases (heavy loads), 10% (light loads)
MARVEL MYSTERY OIL
TOP CYLINDER LUBRICATION
REINFORCED LUBRICATION
If your supplier doesn't carry Marvel products, have him write for complete information now! Dept. 188.
EMEROL MANUFACTURING CO., INC.
242 West 69 St., New York 23, N. Y.

6. Booklet No. 908-6, Leave of Absence: Military Service Leave.
7. Booklet No. 908-7, Promotion, Transfer, Assignment: Layoff, Work-Sharing, and Reemployment.
8. Booklet No. 908-8, General Wage Provisions.
9. Booklet No. 908-9, Wage Adjustment Plans.
10. Booklet No. 908-10, Union-Management Cooperation, Plant Efficiency and Technological Change.
11. Booklet No. 908-11, Seniority.
12. Booklet No. 98-12, Union and Management Functions, Rights and Responsibilities.
13. Booklet No. 908-13, Strikes, Lock-outs, Contract Enforcement.
14. Booklet No. 908-14, Safety, Health, and Sanitation.
15. Booklet No. 908-15, Guaranteed Employment-Wage Plans.
16. Booklet No. 1009, Problems and Policies of Dispute, Settlement and Wage Stabilization.
17. Booklet No. 908-17, Welfare, Health and Pension Plans.
18. Booklet No. 16, Grievances and Arbitration.
19. Booklet No. 980, Directory of Labor Unions.
20. Booklet No. 983, Glossary of Wage Terms.
21. Booklets, Occupational Wage Surveys.
22. Booklet No. 993, Techniques of Preparing BLS data.
23. Booklet No. 130, President's Conference on Industrial Safety.

From: Office, Bureau of Labor Standards U. S. Department of Labor, Washington 25, D. C.

1. Booklet No. 123, Federal Labor Laws and Agencies.
2. Booklet No. 120, Labor Laws and Administration.
3. Booklet No. 119, State & Federal Labor Legislation.
4. Booklet No. 125, State Workmen's Compensation Laws.
5. Booklet No. 119, Workmen's Compensation Problems.
6. Booklet No. 60, Settling Plant Grievances.
7. Booklet No. 66, The Foreman's Guide to Labor Relations.
8. Booklet No. 82, Arbitration of Grievances.
9. Booklet No. 81, A Guide to the National Labor Relations Act.

From: Office, National Labor Relations Board, Washington 25, D. C.

1. Booklet, Rules and Regulations—Statements of Procedures.
2. Annual Reports.

From: Office, Bureau of Apprenticeship Training, U. S. Department of Labor, Washington 25, D. C.

1. Booklet, Apprenticeship—Past and Present.
2. Booklet, Setting-up an Apprenticeship Program.
3. Booklet, The National Apprenticeship Program.
4. Booklet, Apprentice Credit for Previous Experience.

From: Office, Women's Bureau, U. S. Department of Labor, Washington 25, D. C.

1. Booklet No. 232, Women's Jobs.
2. Booklet No. 191, State Minimum-Wage Laws and Orders.
3. Booklet No. 236, Women in Higher-Level Positions.
4. Booklet No. 237, Handbook of facts on Women Workers.
5. Booklet No. 229, Occupations for Girls and Women.
6. Booklet No. 202, State Labor Laws for Women.

From: Office, Federal Security Agency, Washington 25, D. C.

1. Booklet No. 6, Staff Development—The Supervisors' Job.
2. Booklet, Social Security in the United States.
3. Booklet, Your NEW Social Security, 47 Questions & Answers.
4. Booklet, Unemployment Compensation.

From: Office, Council of Economic Advisors, Washington 25, D. C.

1. Monthly Economic Indicator service.

From: Wage and Hour and Public Contracts Divisions, U. S. Department of Labor, Washington, D. C.

1. Booklet, Digest Fair Labor Standards Act, 1949 amended.
2. Booklet No. 516, Recordkeeping Regulations.
3. Booklet No. 778, Overtime Compensation Explanation.
4. Booklet No. 541, Definition of Executive, Administrative, Professional and Sales employees.
5. Booklet No. 790, Portal-to-Portal Act, 1947.
6. Booklet No. 8, Collective Bargaining Agreements under the FLSA.
7. Booklet No. 779, Retail and Services Establishments and Related Exemptions.
8. Booklet No. 3, Rulings and Interpretations of Government Contracts.
9. Annual Reports.

Heavy-duty steel case. Dust-proof. Weather-tite. Side or bottom mounting. Locking hasp.
You Know
BOLSER OIL FLARES
NOW SEE
GENUINE
BOLSER
REFLECTOR
FLARES
The Bolser Reflector Flare has everything . . . Exclusive locking device keeps lenses at right angle for maximum reflection and greatest warning distance . . . Plastic lenses hermetically sealed into permanent position . . . Main chassis upright holds metal flag staff . . . Rust-resistant, electro-plated, heavy zinc finish.
Available 3 flares with or without flags in carrying case—or single units only. See your jobber.
THE BOLSER CORPORATION
Cedar Falls, Iowa
MEETS I.C.C. AND STATE REGULATIONS
EASY AS
1, 2, 3
TO SET UP
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1
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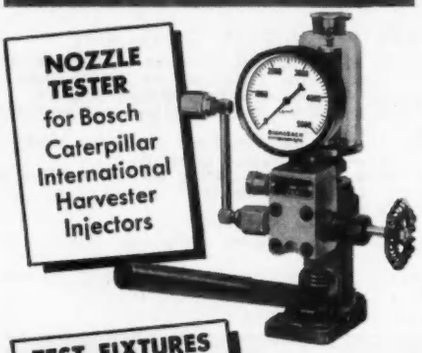
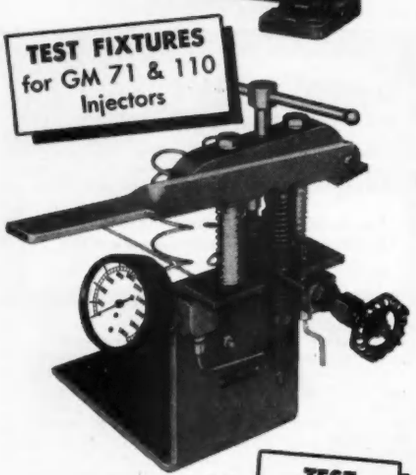
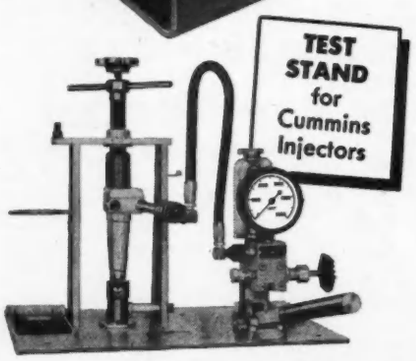
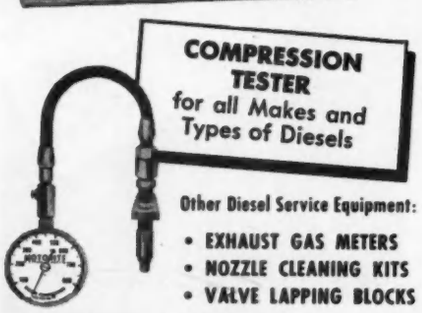
. . . FOR Safety's SAKE . . .

Essential DIESEL TUNING TOOLS









Other Diesel Service Equipment:

- EXHAUST GAS METERS
- NOZZLE CLEANING KITS
- VALVE LAPPING BLOCKS

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
7000 Bennett Street, Pittsburgh 8, Pa.

Send complete information on your Specialized Diesel Tuning Tools

Name.....

Company.....

Address.....

.....

Washington Runaround

Continued from Page 228

Court Defines RR Rights

Railroad-owned trucking companies may operate only as an auxiliary service and not independently, according to a recent Supreme Court decision. In two cases the Court ruled that the ICC had the right to impose conditions that would confine such operations to service that supplemented rail service in order to preserve competition of independent carriers. The cases involved the Texas and Pacific Motor Transport Co., owned by the Texas and Pacific Railway; and the Rock Island Motor Transit Co., owned by the Chicago, Rock Island and Pacific Railway.

Interim Rail Increase

The ICC has granted the railroads an interim freight rate boost averaging 2.4 per cent, pending determination of the rail request for a general 15 per cent increase.

The interim increase generally will be 4 per cent within Eastern territory, 2 per cent within Southern and Western territories, and 2 per cent inter-territorially between the three territories.

New Government Vehicles

New fire fighting equipment being developed by the Air Force is being designed for speed rather than durability on the assumption that seconds count most in fire fighting. The 0-8 all-weather truck will do 5000 feet in 80 seconds from a standing start, is fully operational in 125° F and down to —65° F., in a 20-knot wind. The 0-8 carries twin turrets on front fenders, each with nozzles for straight steam, fog, foam and sno-foam. An 0-7 tanker and an 0-6 "Cardox" truck with a capacity of two tons of carbon dioxide are also under test, as are new and better quenching agents.

Army Ordnance has ordered 1509 of the Twin Coach "convertibles" (see cut, January CCJ pg. 69) for use at army posts as 37 passenger buses or 21 stretcher ambulances. The cost is $19,617,000.

The Post Office Dept. plans to purchase 6357 new trucks during the fiscal year 1952.

END

Please Resume Reading Page 220

That's For Sure

BRUNETTE PIPPEROO: "NAME TWO WAYS TO TURN A TRUCK DRIVER'S HEAD."

BLONDE PIPPEROO: "RATTLE MONEY OR RUSTLE A SKIRT."

Budd Wheel Distributors

provide the same service described in this advertisement

AKRON—Motor Rim Manufacturers Co.
ALBANY—Wheels, Incorporated
ALBUQUERQUE—Wheels & Brakes, Inc.
ATLANTA—Harris Automotive Service, Inc.
BALTIMORE—R. W. Norris & Sons, Inc.
BIRMINGHAM—Wheel, Rim & Parts Co.
BOSTON—New England Wheel & Rim Co.
BUFFALO—Frey, the Wheelman, Inc.
CHARLOTTE—Carolina Rim & Wheel Co.
CHATTANOOGA—Harris Automotive Service, Inc.
CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAVENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
DES MOINES—Des Moines Wheel & Rim Co.
DETROIT—H. & H. Wheel Service, Inc.
EVANSVILLE—Auto Wheel & Rim Service Co., Inc.
FARGO—Wheel Service Company
FORT WAYNE—Wheel & Rim Sales Co.
GRAND RAPIDS—Rim & Wheel Service Co.
HARRISBURG—Standard Wheel & Rim Co.
HARTFORD—Connecticut Wheel & Rim Co.
HOUSTON—Southwest Wheel & Equipment
INDIANAPOLIS—Indiana Wheel & Rim Co.
JACKSONVILLE—Southeast Wheel & Rim Co.
KANSAS CITY—Borbein, Young & Co.
KNOXVILLE—Harris Automotive Service, Inc.
LOS ANGELES—Wheel Industries, Inc.
LOUISVILLE—Auto Wheel & Rim Service
MEMPHIS—Beller Wheel, Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW HAVEN—Connecticut Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoria Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Company
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robblees', Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co., Inc.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel & Equipment
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robblees', Inc.
SOUTH BEND—Wire & Disc Wheel Sales & Service
SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Rim Co.
SPRINGFIELD, MO.—Borbein, Young & Co.
ST. LOUIS—Borbein, Young & Co.
ST. PAUL—Wheel Service Co.
SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robblees', Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.

EXPORT

CLEVELAND—C. O. Brandes, Inc.

CANADA

CALGARY—Fisk Tire Service Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—General Automobile Equipment Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd.
VANCOUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.

75% increase in tire life!

With tire costs what they are today, it may pay you well to call in your Budd Wheel distributor for a free survey of your equipment. Note this experience of the Dickinson County Road Commission, Iron Mountain, Michigan.

"Tire life was increased 75% when we changed over from 7.00 x 20 to 8.25 x 20 tires on new Budd Wheels with wide base rims and a taper under both beads," reports Al Corsi, shop foreman in charge of trucking assignments and maintenance.

"The changeover was made at the suggestion of Stone Manufacturing Co., Budd Wheel distributors in Milwaukee. Prior to switching to the new Budd Wheels and 8.25 x 20 tires," Mr. Corsi goes on "we experienced a lot of trouble with rims and tires.

"Involved in the changeover were 17 Ford 1½ to 2½ ton trucks and 2 Marmon Harrington 2½ ton trucks. They are used daily for road maintenance hauling heavy loads of gravel and equipment. In spite of this hard usage, we find that in a number of instances tires can now run all year around without a change!"

Why not call in your Budd Wheel distributor—today? He *knows* the right combination of wheel and tire for top economy. And he offers the only *complete* wheel line with advanced rims! His name is at the left.

The Budd Company, Detroit 14

Available in both standard and lightweight construction

Strick reports:

"Of all the aluminum trailers we've built since '38... over 98% are now operating!"

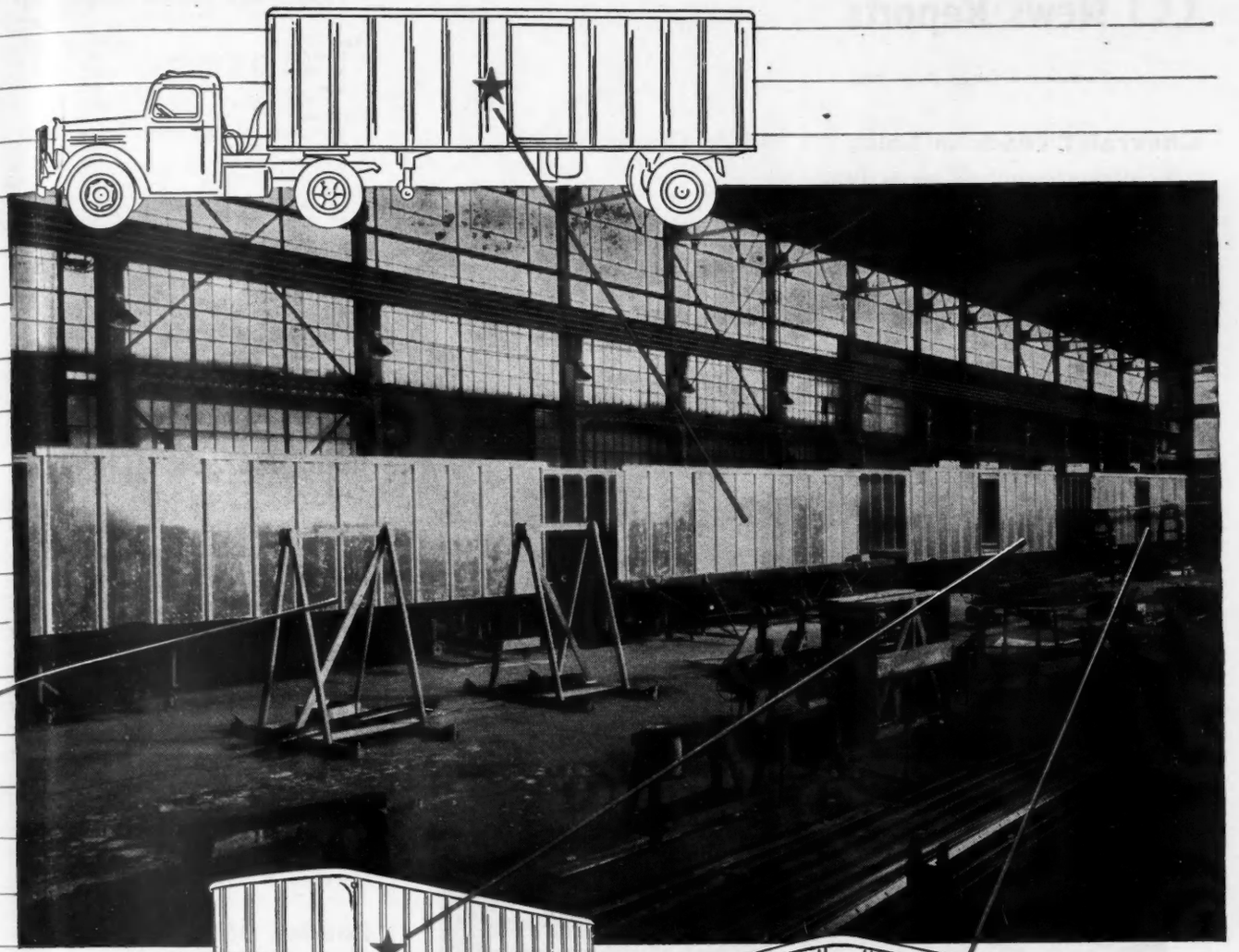
The Strick Company, Philadelphia, has built thousands of aluminum monocoque semitrailers in the past 12 years. All but a very few are still on the job . . . many with over a million miles to their credit.

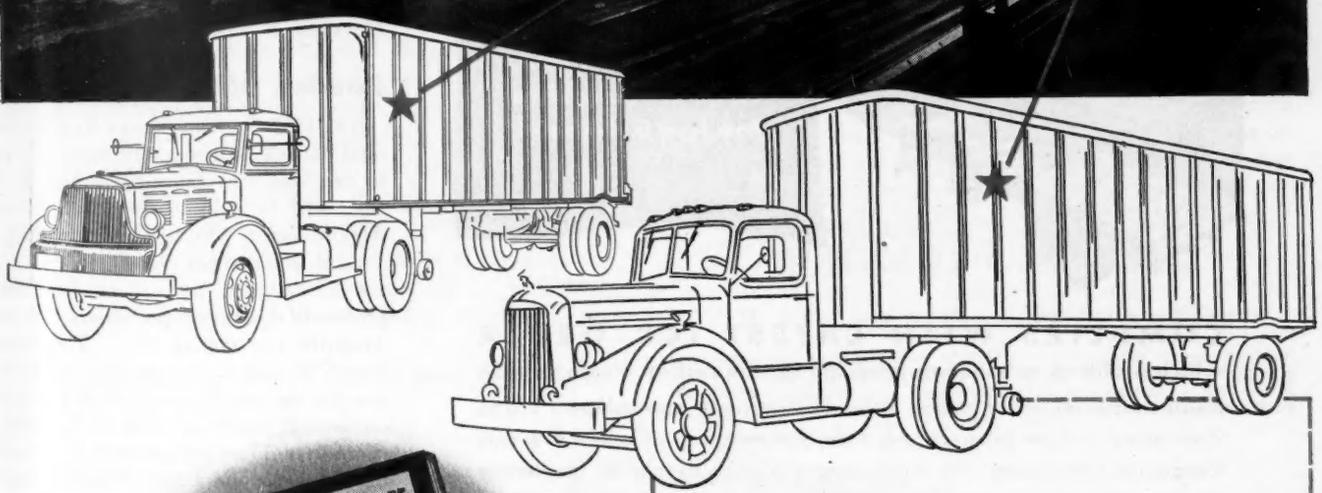
That kind of engineered durability helps fleets earn more, spend less. Because aluminum combines strength with light weight. Because it resists corrosion, needs no paint . . . simplifies repairs due to accidents. And most important, the dead weight saved by Alcoa Aluminum means a payload bonus of at least 1,000 pounds every trailer trip.

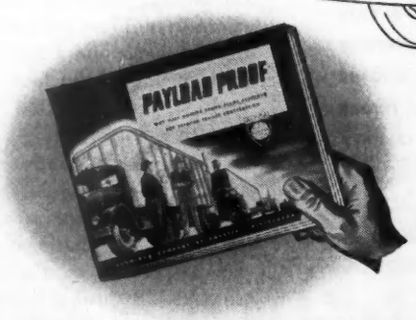
Strick's newest 32-foot tandem is lighter by an extra 400 pounds, thanks to aluminum wheels, cross members and side rail—and elimination of rub rail. Here again, "*Extra* payload is the payoff" with Million-Milers of Alcoa Aluminum!

ALCOA *First in Aluminum*

THE METAL THAT LASTS







SEND FOR FREE TRAILER BOOKLET

Military needs limit the aluminum we can supply. But this 36-page "Payload Proof" book will help your long-range planning for more profitable equipment. Write ALUMINUM COMPANY OF AMERICA, 1876D Gulf Building, Pittsburgh 19, Pennsylvania.

ALUMINUM COMPANY OF AMERICA
1876D Gulf Building
Pittsburgh 19, Pennsylvania

Please send my free copy of your "Payload Proof" book.

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

CCJ News Reports

Continued from Page 168

Chevrolet Leads in Sales

An all-time record was set in 1950 by Chevrolet, with 1,031,446 units registered. This figure far exceeded previous records of sales for either cars or trucks. In 1950 there were 414,000 new trucks made by Chevrolet and 1,420,399 passenger cars. This represents vehicles produced for all markets.

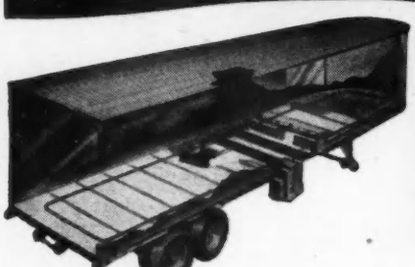
The high score reached in '50 beat the record made by Ford in 1924, when 1,414,000 new passenger cars were produced.

HERE'S REAL PROTECTION FOR ALL CARGOES AGAINST FREEZE-UPS

LUMINATOR *Radiantfloor* CARGO HEATER

MAINTAINS EVEN TEMPERATURES FROM BOTTOM TO TOP OF LOAD

Heater warms floor by circulating warm liquid through pipes in floor. Danger of freezing at the floor level is eliminated.



COMPLIES WITH LATEST ICC ORDER

which prohibits exhausting products of combustion inside vehicle

Heater mounted under vehicle exhausts fumes into atmosphere • Warm floor insures uniform temperatures from bottom to top of load • Prevents freezing of condensate • No fumes in cargo space to taint or accelerate ripening of cargo • Large medium temperature floor area eliminates overheating of lading near source of heat • No carbon monoxide fumes inside cargo space to endanger lives of personnel • Does not occupy valuable cargo space • No electrical connections required • Eliminates fire hazards in cargo space • No obstructions in cargo space • Easy to inspect operation of heater • Thermostatically controlled • Installations engineered for all types trailers and trucks • Economical operation.

LUMINATOR inc.

ENGINEERS • DESIGNERS • MANUFACTURERS

TRANSPORTATION EQUIPMENT

WRITE FOR DESCRIPTIVE BULLETIN NO. 550

120 N. PEORIA ST., CHICAGO 80, ILL.

Offices: 50 Church Street, New York 7, New York

15326 Wyandotte Street, Van Nuys, California

1950 Truck Trailer Shipments*

	November	Eleven Months
Vans		
Insulated and refrigerated	383	3,547
All other closed top	3,241	28,103
Open top	350	3,547
Total—Vans	3,974	35,197
Platforms		
With cattle and stake racks	158	1,513
With grain bodies	54	618
All other	824	8,282
Total—Platform	1,036	10,413
Tanks		
Petroleum	389	3,478
All other	19	198
Total—Tanks	408	3,676
Pole and logging		
Single axle	137	1,310
Tandem axle	82	1,064
Total	219	2,374
Low-bed heavy haulers	147	1,617
Dump trailers	72	770
All other trailers	278	3,019
Total—Trailers	6,134	57,066
Trailer chassis	242	2,164
Total—Trailers and chassis	6,376	59,230

* Industry Division, Bureau of the Census.

Road Improvements Noted

The Indiana Senate's road investigating committee has declared that pavement "pumping" occurs only where three conditions are present at the same time—A fine grained soil, excess moisture, and heavy wheel loads. With the absence of any of the three, there will be no pumping.

Indiana has been placing a granular blanket base course under concrete pavements constructed since the war and had used a limited amount of this type of treatment before that time. The results in general have been satisfactory and to date have practically eliminated pumping, it was reported.

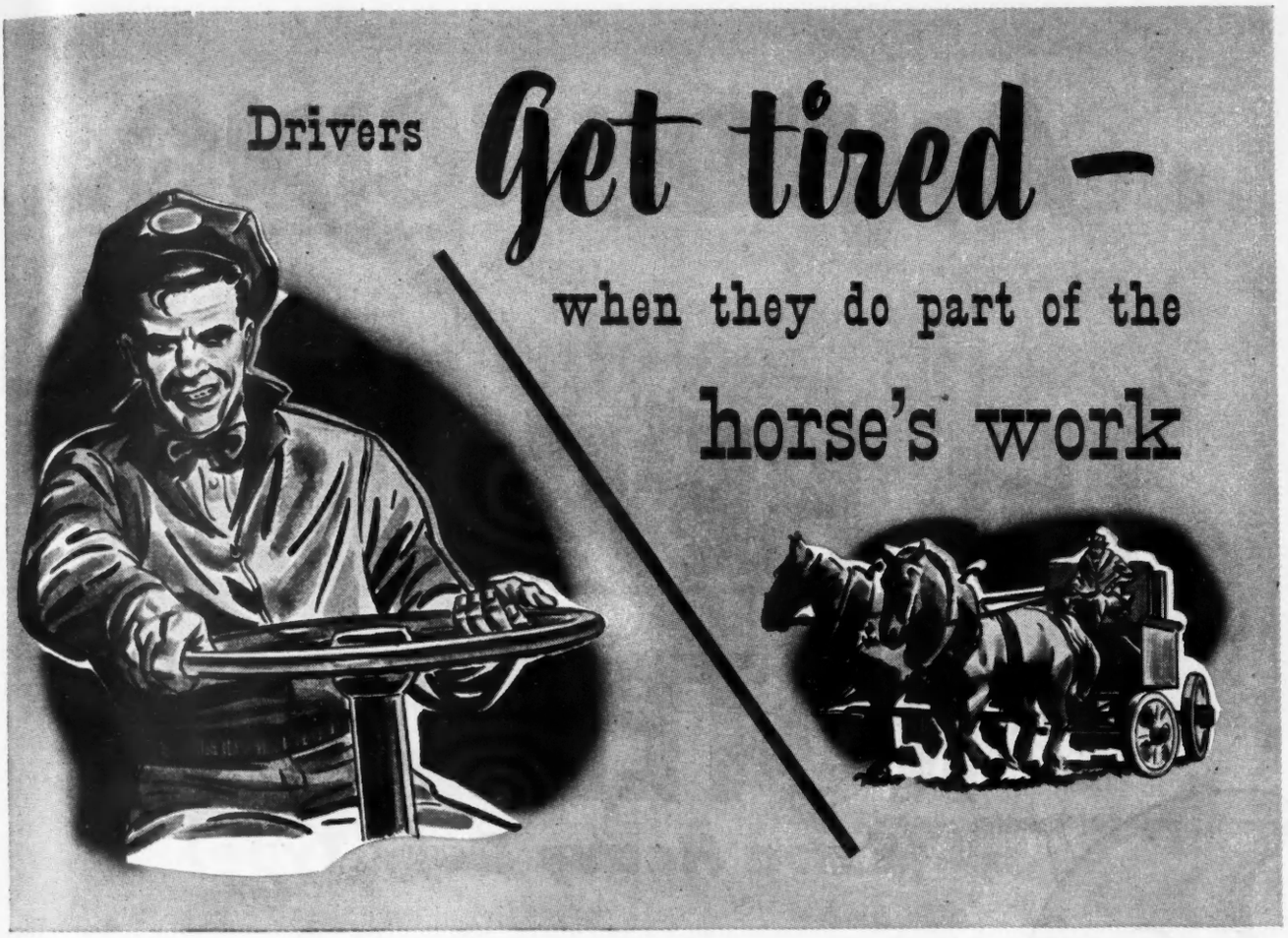
Roadeo Date Set

The 1951 National Truck Roadeo, annual driving-skill competition sponsored by the American Trucking Associations, Inc., will be held in the International Amphitheater, Chicago, October 22-25.

G. D. Sontheimer, safety director for the association, has announced completion of contract negotiations with the Amphitheater management. The arena seats 7500 and has ample parking facilities for the many spectators who attend the annual contest of truck driving skill. More than 75 of the nation's best truck drivers, each one a state Roadeo champion in one of the four classes of competition, are expected to compete in the 1951 finals.

This year's national competition again will be held in conjunction with the annual convention of the American Trucking Associations, scheduled for October 22-26 at the Stevens Hotel, Chicago. It probably will be the last time, however, that the two events will run concurrently in view of a recent ruling by the association's Executive Committee that the Roadeo and the convention be held at different times and places in the future.

(TURN TO PAGE 240, PLEASE)



In the days when horsepower had four legs and was fueled with oats, drivers did not steer vehicles. They guided the team and the animals supplied the work of turning.

Today, with trucks, buses and materials handling equipment many times heavier than any horse-drawn vehicle, the driver too often has to supply the physical effort. The power to turn must come from his arms, shoulders and back.

He's doing part of the work that used to be done by horses. No wonder he tires and loses efficiency. It takes a lot of work to herd a vehicle that has heavy loading on the steering axle.

It's hardly progress to eliminate the horse and then do some of his work.

Vickers Hydraulic Power Steering doesn't give that work back to the horse—it gives it back to horsepower. It takes the work out of steering . . . requires no more effort than a "flick of the reins". Wheeling a vehicle around is much less tiresome, so, naturally the driver can do his job better and with greater safety.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
1418 OAKMAN BLVD. • DETROIT 32, MICH.

Application Engineering Offices: **ATLANTA • CHICAGO • CINCINNATI CLEVELAND • DETROIT • HOUSTON • LOS ANGELES (Metropolitan) • MILWAUKEE NEW YORK (Metropolitan) • PHILADELPHIA • PITTSBURGH • ROCHESTER ROCKFORD • ST. LOUIS • SEATTLE • TULSA • WASHINGTON • WORCESTER**

Ask for Bulletin 47-30a and data sheet #120397 for further information on these units.

VICKERS hydraulic
POWER STEERING
Is Effortless, Positive and Shockless

ANNOUNCING...

The NEW SHELL ROTELLA OIL

(Extra Heavy Duty Type)

"... exceeds every accepted performance standard for oils in its class"

OUTSTANDING PISTON CLEANLINESS

The new Shell Rotella Oil stands out in the very top bracket with respect to Piston Cleanliness, providing convincing proof of its ability to keep contaminants out of the critical zone in which wear is concentrated.

MUCH LOWER RING DEPOSITS

Ring-plugging tests are really tough, yet new Shell Rotella Oil came through stiff competition with a remarkably low ring deposit rating . . . far below the established passing mark!

GREATER ENGINE LIFE

Recognized laboratory engine tests are important in establishing qualifications of lubricants to meet strict requirements. More important to operators, however, is the *tremendous increase in engine life* and the consequent reduction in maintenance expense and time out-of-service that the new Shell Rotella Oil is contributing to fleet operation under today's conditions.

NEW SHELL ROTELLA OIL . . .

Stepped up cleaning action...

Even greater anti-wear protection

. . . anticipating the needs of today's high performance fleet engines

TODAY'S hauling conditions are imposing greatly increased demands upon fleet engines . . . and the lubricants selected to keep them running. At the same time these high-performance engines are expected to turn in ever-increasing mileage records between overhauls.

For these reasons, and because even greater performance will probably be expected as time goes on, the detergent-dispersant and anti-wear qualities of Shell Rotella Oil have been markedly increased.

Operators using Shell Rotella Oil in the past will find an even greater latitude in maintenance procedures.

4-WAY LIFE EXTENSION FOR BUSY ENGINES

1. Remarkable detergent-dispersant action

The ability to suspend contaminants has been deliberately stepped up in the new oil. Field tests on vehicles, in widely varying kinds of service, prove conclusively that this greater detergent-dispersant action extends mileage between overhauls.

2. Drastic sludge reduction

Operators who have been having sludge troubles . . . with clogged pump screens, burned out bearings, or clogged oil ways . . . are urged to find out for themselves how remarkably clean those engines will remain while using this new anti-sludge Shell Rotella Oil.

3. Positive Anti-acid action

New Shell Rotella Oil directly counteracts the acid action of fuel combustion products in the vital top-cylinder zone . . . with correspondingly great reduction in wear. This protection is extremely important in the operation of intermittently loaded engines.

4. Extends time between engine overhauls

New or reconditioned engines . . . operating on fuels of widely-varying quality . . . in all kinds of fleet service . . . have demonstrated an important extension of in-service time. *This gain results from improvement in several basic respects: freedom from sludge and ring-clogging, increased valve life and greatly reduced wear.*

SHELL

for all heavy duty fleet engines

CCJ Reports

Continued from Page 236

Road Wear Discussed

Weather was the biggest factor in deterioration of Illinois highways in the past year, members of the Illinois Highway Users Conference were told at their annual meeting in Chicago. Citing engineering research figures of the Chicago Park District, C. John Viking, treasurer of Central Motor Freight association and executive of Webber Cartage, Waukegan, pointed out that the 205 miles of Park District drives and boulevards had suffered the equivalent of 25,417 chuck holes caused by weather during 1950.

His remarks stressed the fact that the Park District roadways are restricted—trucks are prohibited with the exception of mail and newspaper trucks—yet they suffered just as severe damage recently as the state highways, which carry passenger traffic as well as the heavier tractor-trailer combinations.

He claimed that in the case of the Illinois State Highway system, critics are blaming the highway users—not the weather—for road deterioration. He declared that both the State system and Park District roadways are subjected to the same weather influences, and both show the same type of damage.

Quoting 1950 repair figures of the Park District, Viking said: "Weather damage in 1950 cost the Park District an average of 1.2 cents for every single square yard in the system, or a total of $300 per mile of pavements. Total costs just for this deterioration from natural causes was $61,000. Engineers figured this cost of repairing weather chuck holes was $2.40 per square yard. That means that they repaired the equivalent of 25,417 chuck holes last year. And there wasn't a single tractor-trailer near one of those holes."

Registrations Increased

January new car and truck registrations will undoubtedly be the best for any January in the history of the automotive industry, according to R. L. Polk & Co. A total of approximately 93,000 trucks is indicated to start the year off. This would be about 4000 units higher than the 89,273 new trucks registered in December 1950. New trucks registered in January would set a new mark for any January in the trucking industry's history, last year running only 67,925 units and in the record year of 1948 running 69,486 units. In the 25 states tabulated, the total new truck registrations were 29,609. States tabulated normally account for 31 per cent of the U. S. total.

Junk Yards Busy

Automobile and truck scrappage for 1950 totaled 2,842,551 vehicles, an increase of nearly 50 per cent above the 26-year average scrappage rate of 1,898,675 vehicles a year. According to R. L. Polk & Co., a total of 2.315,110 passenger cars and 527,441 trucks went off the road in 1950, compared with 1,220,041 cars and 484,038 trucks in 1949. The 26-year average yearly scrappage rate is 1,629.370 cars and 269,305 trucks.

(TURN TO PAGE 244, PLEASE)

"I guess the boss wanted it dumped here, he didn't say anything."

Suppose Your Truck Manager Could Stand on a "Watch Tower" High Over the City and Keep an Eye on Your Trucks ALL DAY!

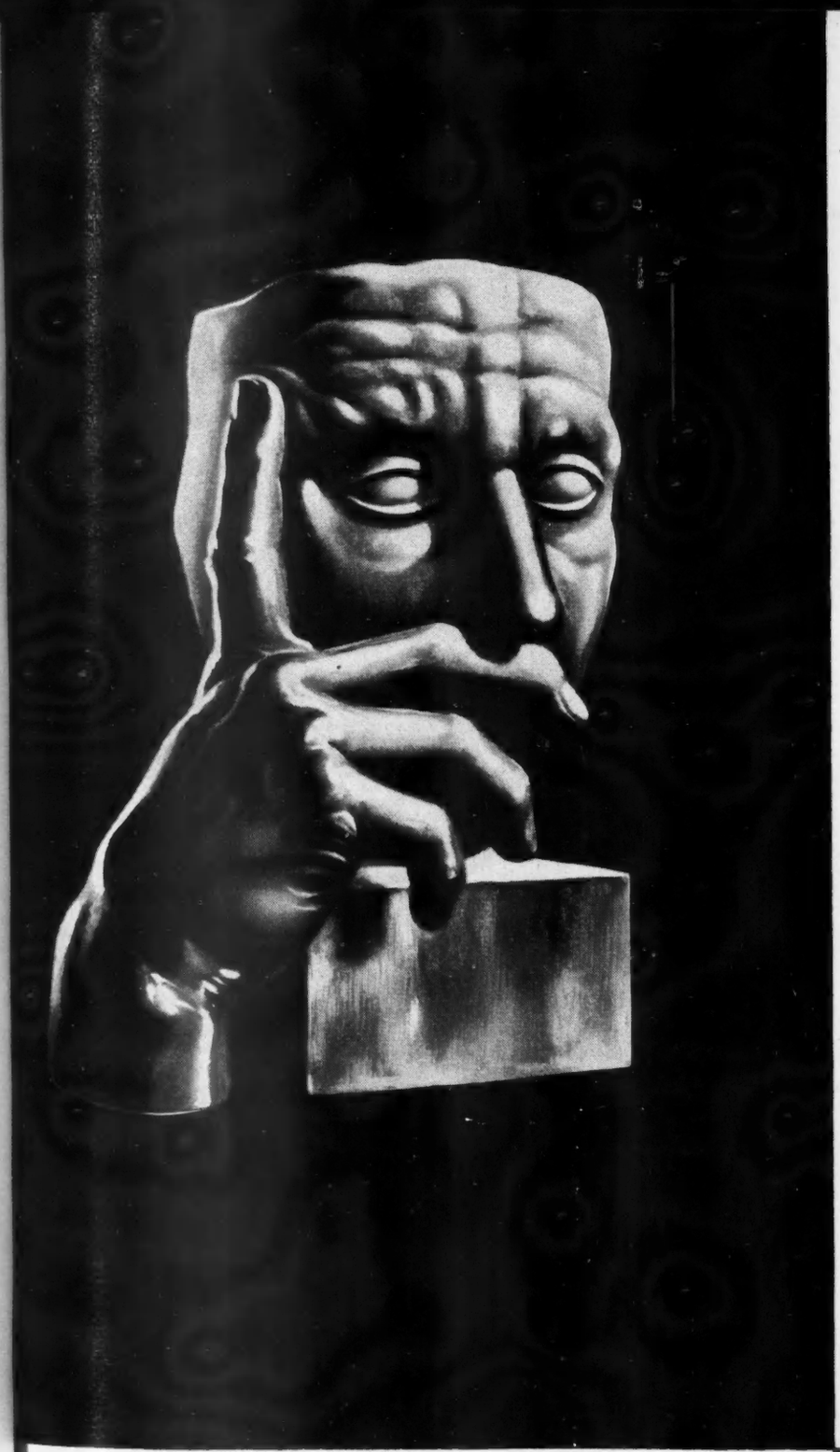
This "dream" can be made to come true in a practical way with a clever little device that's just 7 inches high, weighs only a little over 2 pounds and costs very little—the SERVIS RECORDER.

Installed on each truck, its chart enables you to "see" every move the truck makes all day—busy time, idle time, overtime, etc. It's as though you really were "up on a tower" and could "see" every truck all day, anywhere out on its route, i.e. when traveling, when standing, when motor is left idling, etc.

Our helpful illustrated book, "Ten Ways for Getting More Work Out of Motor Trucks," gives you the whole timesaving story. Send for it today—it's free. The Service Recorder Co., 1375 Euclid Avenue, Cleveland 15, Ohio.

The Servis Recorder

Tells Every Move Your Truck Makes



THINK what you will lose if Communism wins. You won't be able to insure your family's future . . . you won't be able to pray in your church . . . you won't be able to argue your brand of politics . . . you won't be able to work where and how you want to . . . you won't live as a FREE MAN.

Communism can and will destroy all freedoms unless we THINK and WORK together as FREE MEN.

BOHN

BOHN ALUMINUM & BRASS CORPORATION
GENERAL OFFICES: LAFAYETTE BLDG. • DETROIT 26, MICHIGAN

EXTRUSIONS • CASTINGS • FORGINGS • PISTONS • BEARINGS
INGOTS • AUTOMOTIVE REPLACEMENT PARTS • AIRCRAFT PARTS

Mr. C. H. Luton, *Manager,*
Broadway De Luxe Cab Company, Portland, Oregon,
at his wood- and metal-working hobby shop.

"THE PAST YEAR'S report just completed by our Traffic Department shows that our fleet of 75 taxicabs traveled a total of 5,265,000 miles. The report also showed me an estimated 99.9% of our deliveries were *on schedule,*" says Mr. Luton.

"This report proves that our Traffic and Dispatching Departments are functioning correctly, and that our taxicab equipment is meeting the high standards we expect of it.

"One item of equipment that helps us keep our reputation for reliability is the Auto-Lite Battery.

"We've used them in many of our vehicles for the last three years. We find that Auto-Lite Batteries measure up to our standards on every count."

AUTO-LITE batteries

E IS AN AUTO-LITE BATTERY FOR EVERY USE — CARS • TAXICABS • TRUCKS • BUSES • TRACTORS • DIESEL MOTORS

CCJ Reports

Continued from Page 240

"Scrappage"—the number of cars and trucks which fail to be re-registered over the previous year—represents the replacement market. The 1950 scrappage rate means that the automotive industry is in a favorable position, having to produce only slightly more than 2,000,000 passenger cars and a half-million trucks this year in order to maintain the present levels of car and truck population. The average annual new car registration for the quarter century is 2,311,765 new cars, as compared with the 1950 passenger car scrappage figure of 2,315,110. The average annual new truck registration for the 25-year period is 458,921 units, substantially under the 1950 scrappage total of 527,441 trucks.

Percentage wise, car scrappage for 1950 amounted to 36.59 per cent of new registrations, and comprised 5.8 per cent of all cars in use. The corresponding figures on trucks are 60.42 per cent of new registrations and 6.43 per cent of trucks in use. The truck scrappage figure compares with the 26-year average of 269,305 units a year. Scrappage amounted to 60.42 per cent of new trucks registered or 6.43 per cent of all trucks in use.

Bridgeways Lines Sold

Trucking routes of Bridgeways, Inc., of Detroit have been sold to seven trucking companies. The sale followed failure of a reorganization program for Bridgeways started last April. Companies buying the routes which run as far east as New York and as far west as Missouri are Shippers Freight Forwarding Co., Cleveland; Hayes Freight Lines, Detroit; Eastern Motor Express, New York; Motor Cargo Co., Cleveland; Merchants Motor Freight, Inc., Detroit; Associated Transport, Cleveland, and Roadway Express, Detroit.

Shipping Study Scheduled

Special attention to better shipping practices will feature the APA National Freight Claim Council meeting in Detroit June 19 through 22. The complete program and list of speakers will be announced later, according to Thomas W. O'Neill, manager of claims for George F. Alger Co. of Detroit. He will be assisted by freight claim executives of large Michigan trucking companies.

(TURN TO PAGE 246, PLEASE)

"Old Timer" Honored

Members and directors of the Chicago Automobile Trade Association congratulate Fellow Member Michael F. McCarty, second from left, manager of International Harvester's Chicago motor truck district, as being the salesman in the Chicago area with the greatest length of service in the truck sales field. A veteran of 49 years with Harvester, McCarty appeared at the "Old Timers" activities in a high-wheeled 1906 "Auto-Wagon," one of the early trucks produced by IH. Joining McCarty for an "old-fashioned ride" are, from left to right, Chicago Automobile Trade Association President Frank H. Yarnell, General Manager and Show Manager Ed Cleary, and Executive Show Committee Chairman James F. McManus

BETTER *Buy* BETTER GASKETS *by* McCORD

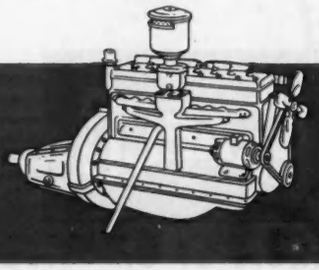
YOU CAN DEPEND ON McCORD GASKETS

Most Car Makers Do!

"Build better gaskets for better sealing service" has been the watchword of the McCord gasket organization throughout the years. The reputation of McCord gaskets for quality, fit, and the ability to make and keep TITE joints was established through adherence to this policy.

McCORD CORPORATION
DETROIT 11, MICH.

Specify McCORD... the Gasket that Is Engineered to the Design of the Motor



CCJ Reports

(Continued from Page 244)

ATA Discussion Scheduled

Problems raised by the new excise profits tax law and the defense mobilization program will be featured in the discussion groups at the meeting of the National Committee on Accounting and the State Accounting Councils of the American Trucking Associations. The sessions will be held at the Melrose Hotel, Dallas, Texas, May 7-9. Mr. O. L. Doud, secretary-treasurer of Southern Express Inc., Dallas, is general chairman of the committee on arrangements.

Tire Shipments Decline

According to the monthly report of the Rubber Manufacturers Association Inc., shipments of truck and bus casings in January were down 4.22 per cent to 1,252,477 units from 1,309,772 units in the previous month, while production of truck and bus casings was up to 1,330,639 units from 1,175,150 units in December, an increase of 13.23 per cent. Inventories totaled 803,384 units, an increase of 8.98 per cent from the end of the previous month when 737,190 units were in stock.

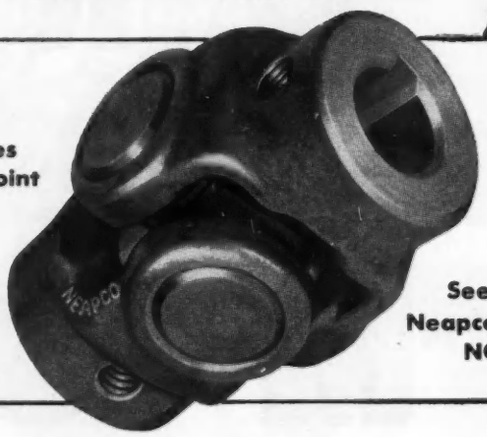
Shipments of automobile inner tubes were up in January to 6,595,079 units, an increase of 2.68 per cent from December when 6,422,987 tubes were shipped. Production was off 2.64 per cent to 5,950,266 units as compared with 6,111,421 units the month before. Inventories of tubes were down 11.44 per cent to 5,852,488 units from the 6,608,314 units on hand at the end of December.

Neapco now has this

SHORT P.T.O. JOINT

... for 1951 Chevrolet Truck and other close applications

The Neapco 1500-1600 Series Power Take Off Joint



See Your Neapco Jobber NOW

- Maximum length, 3⅜ inches
- All popular bore sizes to 1 inch
- Standard Neapco 1600 Construction
- 15° Operating Angularity
- Lubricated for life
- Long service Needle Bearings
- All yokes interchangeable
- Same series Journal Assembly as standard Neapco PTO

TRADE NEAPCO MARK ®

NEAPCO PRODUCTS INC., POTTSTOWN, PA.

Makers of Universal Joints and Chassis Parts

1950 Wages Show Increase In ATA Contract Study

Hourly wages of unionized trucking employes increased an average of 7.8 cents per hour through labor agreements negotiated in 1950 as contrasted with a median of seven cents for all industry, according to a study by the Industrial Relations Department of ATA.

Hourly raises averaging 9.2 cents were granted in the second half of 1950 as compared with 4.9 during the first half, indicating wage pressures which developed from the current emergency, the study showed. Mileage rate increases for over-the-road drivers ranged from $.0015 to $.005 per mile with $.0025 occurring most frequently. Increases in "per trip" rates were generally in balance with hourly and mileage hikes.

The study, based on 408 trucking labor agreements negotiated during 1950, did not take into account the flurry of voluntary wage increases which prevailed during the last quarter of the year, nor increment boosts resulting from prior contracts. Local Cartage and Pickup and Delivery agreements constituted 35 per cent of the sample; Maintenance, 22 per cent; Movers, 16 per cent; and Miscellaneous 18 per cent. The remaining 9 per cent comprised Over-The-Road agreements with hourly wage provisions.

Twenty-two mid-continent states provided 56 per cent of the agreements studied; five far-western states, 21 per cent; thirteen northeastern states, 16 per cent; and seven southeastern, 7 per cent. Approximately 25 per cent of the hourly wage contracts provided for no change in wage rates over 1949. In the first half of 1950, about 35 per cent of the agreements granted no increases while in the second half, only 7 per cent of them were consummated without wage adjustments.

(TURN TO PAGE 248, PLEASE)

SELF-CONTROL STARTS HERE

AND TO RESTORE
ENGINE PERFORMANCE

OIL-CONTROL STARTS HERE

To stop oil-pumping, replace worn engine bearings

Things aren't always what they first seem to be . . . an oil-pumping engine, for example. Often, the piston rings are wrongly blamed for oil pumping started by worn main, connecting rod or camshaft bearings. *Correction must start at the bearings!* Give the rings a chance to do their own job—check for worn engine bearings on *every* engine reconditioning job. Replace with genuine Federal-Mogul bearings, *engineered* for the job of oil control!

FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

control oil-pumping where it starts—REPLACE WITH

FEDERAL-MOGUL

OIL CONTROL **BEARINGS**

THIS TRADE-MARK IS RECOGNIZED AND RESPECTED

CONTINENTAL MOTORS
Powerful as the Nation
AMERICA'S STANDARD

WHEREVER ENGINES ARE USED

It was in the field of transportation, of course, that Continental Red Seal engines first earned the fine reputation they have held all through the years. And while the applications of Continental power have increased in number and diversity, to include hundreds of uses on land, at sea and in the air, the famous Red Seal emblem still derives much of its lustre from the performance of Red Seal engines on the road.

Not only in leading makes of heavy-duty haulers, but in motor cars, taxicabs, buses, and other specialized vehicles, these engines are consistently giving a good account of themselves. Their day-after-day dependability in the ruggedest kinds of use mirrors almost 50 years of engine building experience. It also attests the thoroughness with which each Red Seal model is engineered and built to do its own specialized job.

GENUINE CONTINENTAL PARTS
AND FACTORY-AUTHORIZED
SERVICE FROM COAST TO COAST

Continental Motors Corporation
MUSKEGON, MICHIGAN

CCJ Reports

Continued from Page 246

Slightly more than half of the trucking agreements which became effective in 1950 were effective for a period of one year. About 3 per cent were for 1½ years, and 44 per cent were for two years. Of the remainder, four agreements extended for three years each, two for four years and one for five years.

Almost 28 per cent of the agreements contained automatic increment or cost-of-living escalator clauses. Of these, 97 percent became effective automatically after from four months to two years, the most common being one year. Of these, 10 per cent became effective after six months; 81 per cent after one year and 6 per cent in less than six months or more than one year. The remaining 3 per cent were cost-of-living escalator clauses with effective date for the increases tied to the Bureau of Labor Statistics Consumers' Price Index.

Health and Welfare clauses were found in 126 agreements, or about 31 per cent of those studied. Of these, 94 per cent initiated new plans. In the other 6 per cent such plans already in effect were liberalized in the northeastern states. In addition to Health and Welfare plans, the trucking industry in 1950 witnessed the institution of four pension plans through collective bargaining.

Approximately 11 per cent of the 1950 agreements provided paid holidays for the first time. In an additional 1 per cent, provision was made for an increase in the number of paid holidays; and another 1 per cent showed decreases in the number of paid holidays.

Nearly 7 per cent of the agreements called for a specified number of guaranteed weekly hours. These guarantees ranged from 40 to 55 hours per week, with 48 hours being the most common specification. About 2 per cent specified a reduction in the normal work week.

(TURN TO PAGE 253, PLEASE)

"If you didn't drive so fast it would not blow off every time we come to the beach."

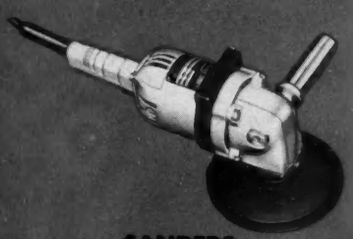
Service the cars with the tools that build them!

VALVE REFACERS

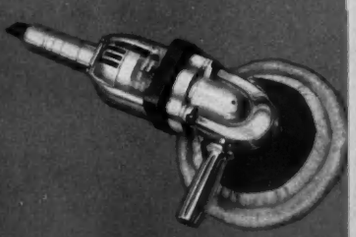
SEAT GRINDERS

IMPACT WRENCHES

DRILLS



SANDERS



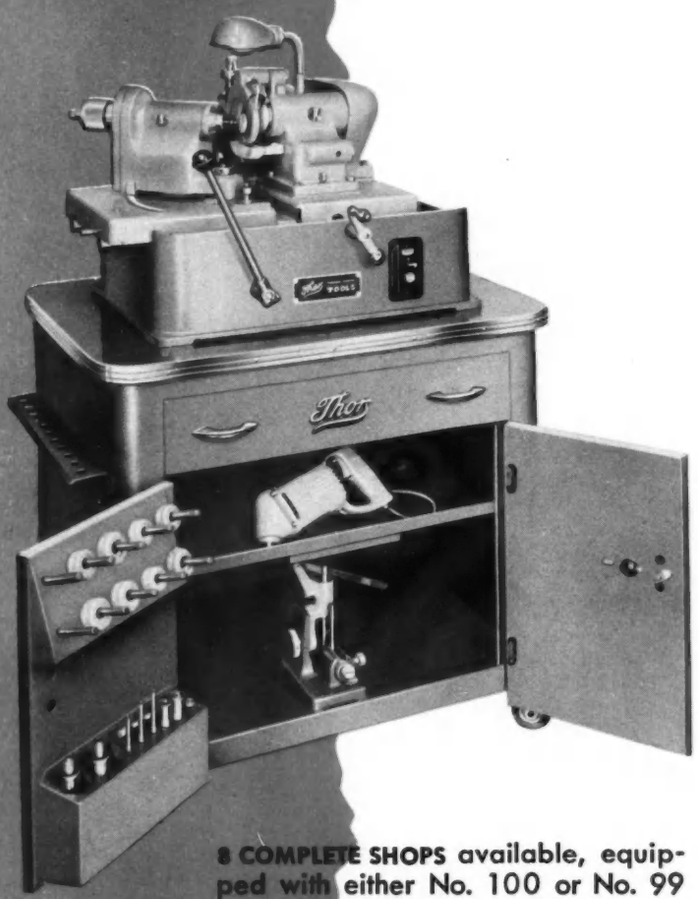
POLISHERS

GET IT FROM YOUR JOBBER

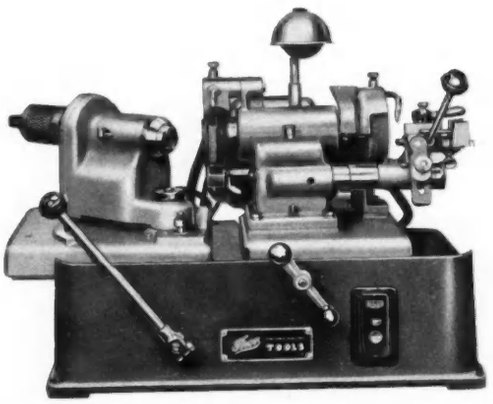
Thor PORTABLE POWER TOOLS

VALVE SHOP EQUIPMENT

Service the cars with t



8 COMPLETE SHOPS available, equipped with either No. 100 or No. 99 Refacer, Seat Grinder, wheel dresser, cabinet and accessories.



THOR MODEL 100 VALVE REFACER—Wet type, capacity ¼" to 11/16", extra heavy construction, speed chuck, lapped collet gear driven by own individual motor, complete with 4-purpose micrometer-feed butt grinding wheel and fixture.

HEAVY DUTY SEAT GRINDERS

Capacities to 2½" Wheel. 10,000 or 12,000 R. P. M.

COMPLETE LINE OF VALVE SHOPS

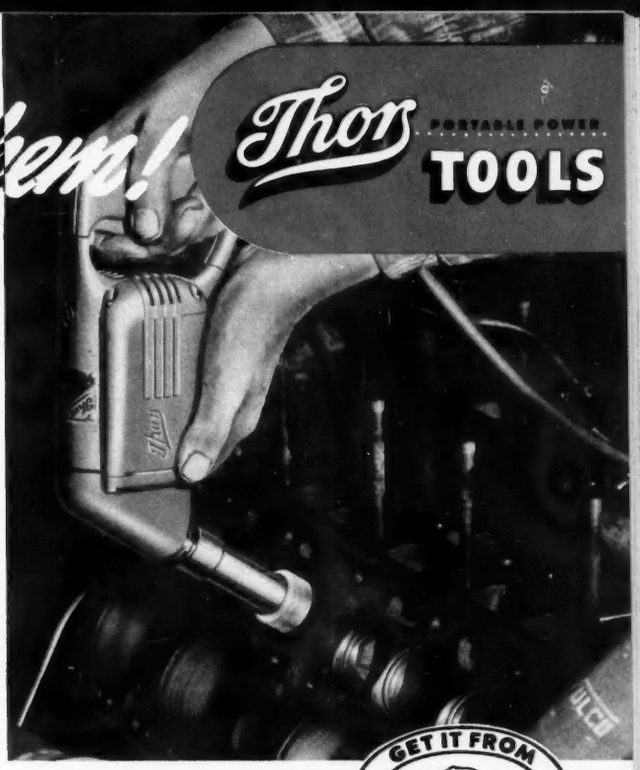
Silver Line DRILLS

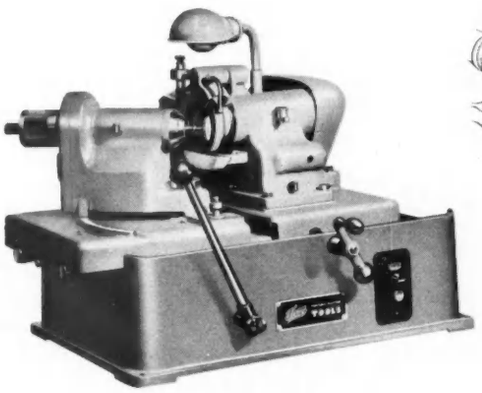
Complete Line, ¼" to 1¼"
Standard and Heavy Duty—For Every Shop Need
DRILL STANDS available for all sizes

The Thor SILVER LINE represents the highest quality in portable electric tools . . . polished, die-cast aluminum housings; heavy duty ball bearing motors; heat-treated alloy steel gears; sealed switches . . . everything designed for greater convenience and long-lasting tool service.

th the tools that build them!

Thor PORTABLE POWER TOOLS





THOR MODEL 99 VALVE REFACER–Wet type, capacity ¼" to 11/16", same heavy duty construction as Model 100, but without butt-grinding wheel. Separate fixture, shown at right, permits butt-grinding valves, rocker arms, tappets on refacer wheel.

GET IT FROM YOUR JOBBER

EXTRA HEAVY DUTY SEAT GRINDER

Capacity to 4" Wheel.
8,000 R. P. M.

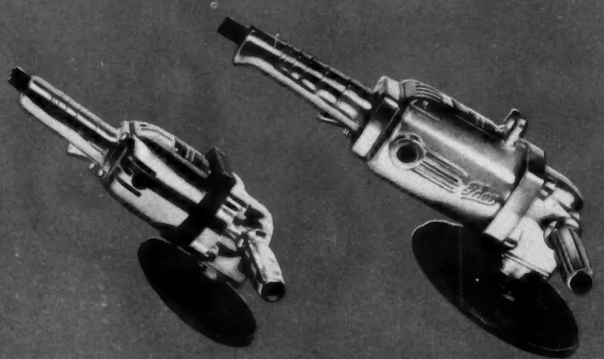
ACCESSORIES, WHEELS, PILOTS, ETC. AVAILABLE

6 STANDARD VALVE SEAT KITS

Many Specials
Expanding and Plug Pilots

POLISHERS • SANDERS

7" Pad or Bonnet
Standard and Heavy Duty—1400 R. P. M.



7" and 9" Disc Size
Standard and Heavy Duty — 4500 R. P. M.

Thor

Greatest power tool development since the invention of the electric drill! Remove "frozen" nuts in a jiffy—drill, tap, drive screws and nuts, wire brush, grind, sand, etc., with these versatile tools!

IMPACT WRENCHES

AIR

Reversible

5 BASIC SIZES
¼" to 1¼" capacity
Operate on Minimum Air

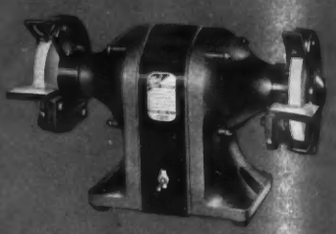
Silver Line ELECTRIC

Reversible

⅜" and ⅝" Capacity
Extra Sturdy Construction. Will not stall or burn out under load.

KITS Thor Electric Impact Wrenches are available with Carrying Cases, complete accessories.

BENCH GRINDERS



6" to 10" Wheels
Standard and Heavy Duty

PORTABLE GRINDERS

4", 5", 6" Wheels
Shock Absorber Spindle

FENDER HAMMER

Complete Equipment for All Turret Tops, Hoods, Bodies, Doors and Fenders

THOR MULTI-MATIC AIR TOOL KIT

8 Tools in One. With Complete Accessories for Drilling, Hole Sawing, Grinding, Wire Brushing, Sanding and Polishing.

GET IT FROM YOUR JOBBER

INDEPENDENT PNEUMATIC TOOL COMPANY • AURORA, ILL.

BIRMINGHAM BOSTON BUFFALO CHICAGO CINCINNATI CLEVELAND DENVER DETROIT HOUSTON
LOS ANGELES MILWAUKEE NEW YORK PHILADELPHIA PITTSBURGH ST. LOUIS ST. PAUL
SALT LAKE CITY SAN FRANCISCO SEATTLE LONDON, ENGLAND SAO PAULO, BRAZIL TORONTO, CANADA

Printed in U.S.A.

See "TOOLS—ELECTRIC" in Your Local Telephone Directory

JE-122

CCJ Reports

Continued from Page 248

Truck Laws Introduced

Legislation has been introduced in Michigan to prohibit heavy trucks from using state and federal highways on Sundays and holidays during June, July and August. Trucks hauling milk or other perishable goods would be exempted from the ban. Michigan truck interests are having a rough time in the legislature battling proposals to raise weight taxes on trucks substantially. A 1½ cent gasoline tax increase already has been voted. The truckers are under fire from rural area legislators and their cause has not been aided by the early breakup of Michigan highways resulting from the extremely severe winter. A measure also has been introduced that would invoke more severe penalties for overloading. The bill provides penalties ranging from 2 cents to 10 cents a pound of overload with the maximum applied on overloads of more than 5000 pounds.

Trailers Made Available

The trucking industry will benefit from the failure of Lustron Corp., an RFC-backed project for building prefabricated houses. About 800 truck-trailers that Fruehauf Trailer Co. has delivered to Commercial Home Equipment Corp. for hauling prefabricated houses have been returned to Fruehauf and will be converted for commercial use. A preliminary report indicates that Fruehauf's earnings for 1950 will exceed $8.5 million, compared with $2.8 million for 1949.

Mack Gives Diesel

C. J. Auert, district manager for Mack Motor Truck Corp. (left) is shown presenting a diesel engine to Harold Dowding (center), shop instructor, and Dr. Edward H. Lang, principal of the Smith Technical High School, Syracuse, N. Y. The engine is a complete unit capable of operation, and will be used for testing and class instruction in diesel operation and maintenance. The course in which the engine is to be used is one of the 11 shop courses available at the school

All Records Smashed

Official figures on new truck registrations last year show that they exceed the previous best year, 1948, by more than 100,000 units. Final and complete tabulations by R. L. Polk & Co., Detroit automotive statistical agency, fix new truck registrations last year at 1,142,307 units, setting a new alltime mark. The 1950 total exceeded the 1949 performance by 180,321 and 1948 by 107,133 units. Three months last year, July, August and September, racked up the highest total registrations ever obtained. Peak month was August when 126,533 new trucks were registered.

Armed Forces to Explain Their Packaging Needs

Packaging requirements of the armed forces will be explained to industry by representatives of the Army, the Navy, and the Air Force, at the American Management Association's three-day national Packaging Conference, April 17-19, at the Auditorium in Atlantic City. The conference will be held in conjunction with the 20th annual National Packaging Exposition, also under the auspices of AMA, which will be on view at the Auditorium for four days, April 17-20.

(TURN TO PAGE 256, PLEASE)

Check ✓

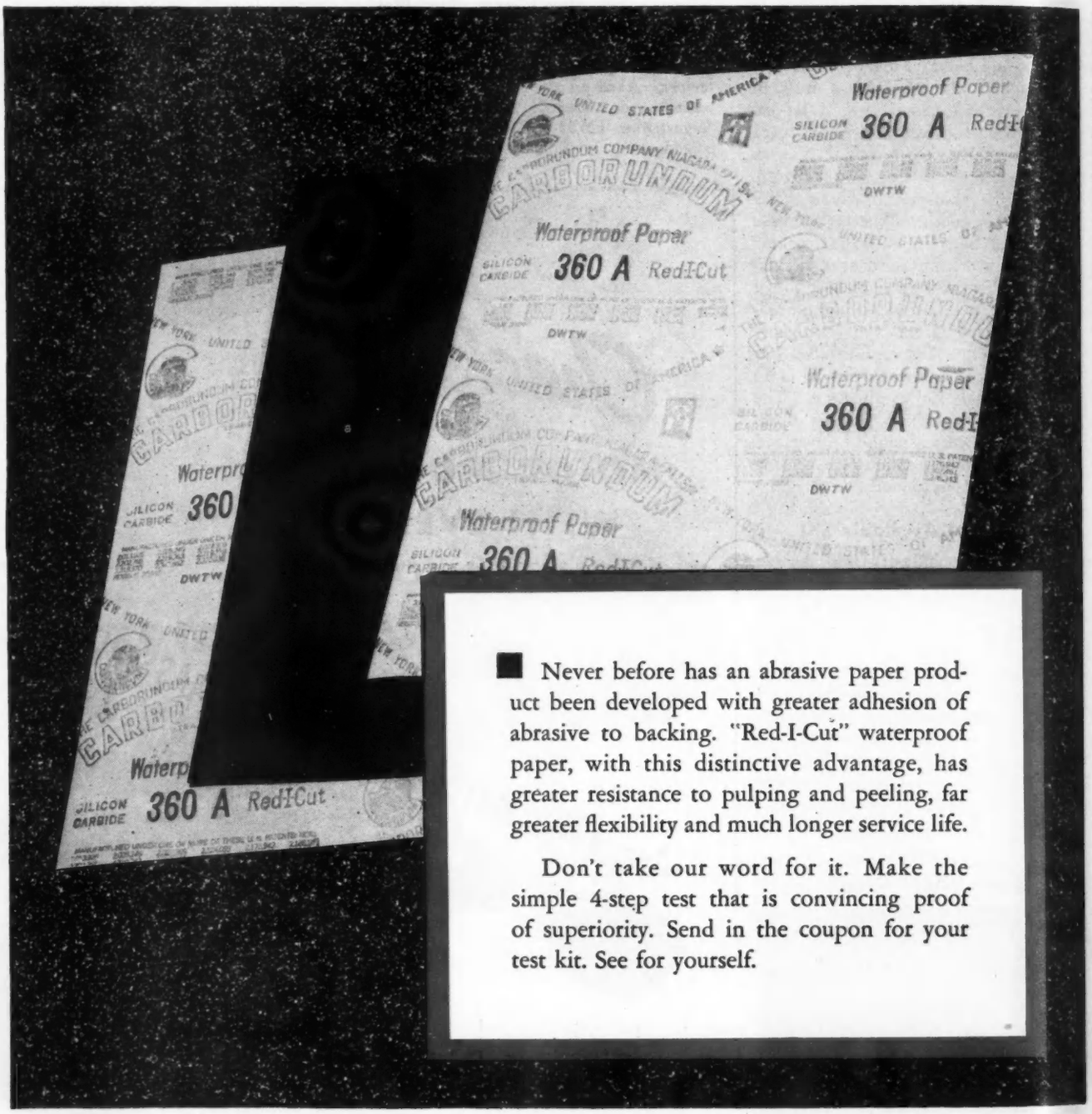
MOTOR MOUNTS WITH EVERY CLUTCH JOB

Armor-Flex MOTOR MOUNTS ARE BRASS PLATED

Armor-Flex Motor Mounts are designed to *hold up under stress and strain.* They're made with BRASS-PLATED METAL which gives permanent adhesion of rubber to steel. Play it safe! Check motor mounts with every clutch job. Replace defective mounts with Armor-Flex for complete customer satisfaction.

Doan
MANUFACTURING CORP.
CLEVELAND 12, OHIO

NEW....Red-I-Cut



■ Never before has an abrasive paper product been developed with greater adhesion of abrasive to backing. "Red-I-Cut" waterproof paper, with this distinctive advantage, has greater resistance to pulping and peeling, far greater flexibility and much longer service life.

Don't take our word for it. Make the simple 4-step test that is convincing proof of superiority. Send in the coupon for your test kit. See for yourself.

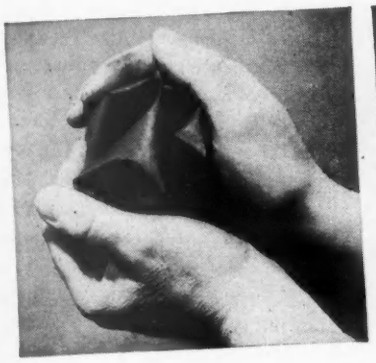
You can do a better job with products by **CARBO**

TRADE

"Carborundum" and "Red-I-Cut" are trademarks of The Carborundum Company, Niagara Falls, New York.

Waterproof Paper with Superior Features

Make This Simple 4-Step Test



1 Crumple a sheet of "Red-I-Cut" paper. Feel its pliability and flexibility. A feature that offers plenty of shop advantages.

2 When you flatten the crumpled sheet of "Red-I-Cut" paper—notice the lack of peeling and cracking.

3 Now bend a corner of the sheet. Crease it. See the amount of abuse it will take without tearing apart.

4 Will the paper you are now using pass this test? Compare it with "Red-I-Cut" paper. Send in coupon for your free test sample.

Advertising Department
THE CARBORUNDUM COMPANY
Niagara Falls, New York

I'd like to make a 4-step comparison test of "Red-I-Cut" paper with the product we are now using. Send my free sample.

NAME _____

CONCERN _____

STREET _____ STATE _____ C

RUNDUM

MARK

Making ALL Abrasive Products to give you the proper ONE

CCJ Reports

Continued from Page 254

Speed Tests Reported

Twenty-three states have reported the results of 261 speed studies conducted during 1950 on main rural highways. The results disclosed that the average speed of all vehicles is 47.4 mph or 0.2 mph slower than that recorded for 1949. The average speed of all passenger cars remains at exactly the same level as in the previous period.

Truck and bus speeds have dropped slightly from the previous year from 48.5 to 42.8 mph. Regional summaries indicate that speeds in the eastern states are continuing to average below those recorded in the the central and western states. However, it is well to note that in the rural areas tested, 45 per cent of all vehicles were operated above 50 mph.

Scholarship is Announced

A scholarship totaling $1000 has been announced by the Tennessee Motor Transport Assn. to the University of Tennessee at Knoxville. The award is to encourage study and research of the motor carrier industry on the graduate level and to supplement the undergraduate educational program of the American Trucking Associations, Inc., at the University of Tennessee.

Basic requirements of a candidate include a Bachelor's degree or its equivalent from an acredited college or university, demonstration of interest by having successfully completed a course in motor carrier transportation, or having been employed by a motor carrier or otherwise, and full citizenship status in the United States. The applicant need not be a resident of Tennessee.

Application and credentials must be submitted in order to arrive in Knoxville by May 1. The scholarship shall be effective for the 1951-52 year beginning on or about Sept. 20. Appointment shall be by a committee representing the TMTA and the University of Tennessee. Applicants will be rated on the basis of personality, interests, scholarship, campus and extra-curricular activities. Further information should be obtained from Prof. William Way, Jr., College of Business Administration, University of Tennessee, Knoxville.

Forum Plans Announced

Labor-management cooperation in the trucking industry will be the theme of a forum discussion to be featured at the fifth Annual Meeting of the Western Highway Institute, to take place May 3-5 at the Broadmoor Hotel, Colorado Springs. The convention will bring together from the 11 Western States and Alaska top executives of the organizations sponsoring WHI, which include leading Western motor carrier firms, truck equipment manufacturers, and the Western Conference of Teamsters.

Chairman of the committee on arrangements for the three-day meeting is Earl Buckingham, Buckingham Transportation Co., Denver, assisted by E. L. Reilly, manager, Colorado Motor Carriers Association. O. R. Craven, Pocatello, Idaho, is chairman of the board of WHI, and John L. Springer, San Francisco, is president.

(TURN TO PAGE 318, PLEASE)

Born That Way

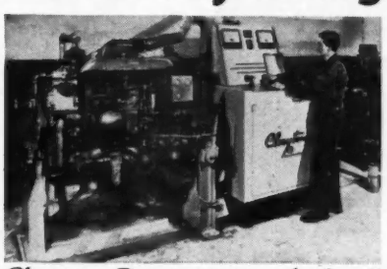
Daughter: "Pater, that was my gentleman friend I just spoke to! He's the head of our fraternity at school. What do you think of him?"

Tank Fleet Operator: "I could tell he was a big frat head the minute I laid eyes on him!"

P.I.E. *also means*

Performance Is Everything

With more than 400 vehicles operating over the highways west of Chicago, Pacific Intermountain Express stresses peak road performance as the key to operational efficiency. In the P. I. E. maintenance shops at Denver, Colorado, Clayton Chassis Dynamometers are used for diagnosis of power complaints and to check performance following repairs or overhaul. Clayton Engine Dynamometers are used to run-in rebuilt engines before remounting in vehicles. With maintenance methods as modern as their rolling stock, P. I. E. emphasizes that Performance Is Everything by using . . .



Clayton Dynamometers check all P. I. E. power units following periodic routine overhaul or rebuilding. Cuts show tractor on chassis Dynamometer and rebuilt engine receiving run-in test on engine dynamometer. Mail coupon for complete literature on Clayton Dynamometers for fleet operators.

Clayton DYNAMOMETER

CLAYTON MANUFACTURING CO. CCJ-4
Box 550, EL MONTE, CALIFORNIA
Send complete literature on
( ) Clayton C-61 Chassis Dynamometer.
( ) Clayton Engine Dynamometers, with power curve.

NAME.....
FIRM.....
ADDRESS.....
CITY.....STATE.....

400% increase in oil mileage with KOPPERS *K-Spun* porous chrome piston rings

George Wigner, Superintendent of Maintenance for Evansville (Indiana) City Coach Lines, Inc., says: "We have increased our oil mileage more than 400% by using Koppers K-Spun Porous Chrome Piston Rings. In addition, we have substantially decreased cylinder wear."

Koppers K-Spun is an entirely different piston ring material, manufactured by a centrifugal casting process. K-Spun is twice as strong—4 times more resistant to combustion shock—much more resistant to wear than ordinary ring materials. *Koppers K-Spun Rings are guaranteed against breakage in installation or in service!*

Koppers Porous Chrome* has proved to be the outstanding piston ring development of the century! The *porous surface* holds and distributes oil during break-in, quickly wears down to a perfect seat of long-wearing solid chrome! Koppers Porous Chrome Rings last up to 4 times longer than ordinary rings—reduce cylinder wear 50% or more! And most important—Koppers puts the chrome where it belongs—on the top compression ring—the ring that gets the *most* wear, the *most* heat, the *least* lubrication!

If you want to cut down-time, lower operating costs, increase mileage and profits—specify Koppers K-Spun Porous Chrome Piston Rings next time you overhaul!

*Van der Horst Process.

See Your Koppers American Hammered Jobber for these extra long wearing Koppers Piston Rings—equally effective for re-ring or rebore jobs. KOPPERS COMPANY, INC., *Piston Ring Dept.*, Baltimore 3, Md.

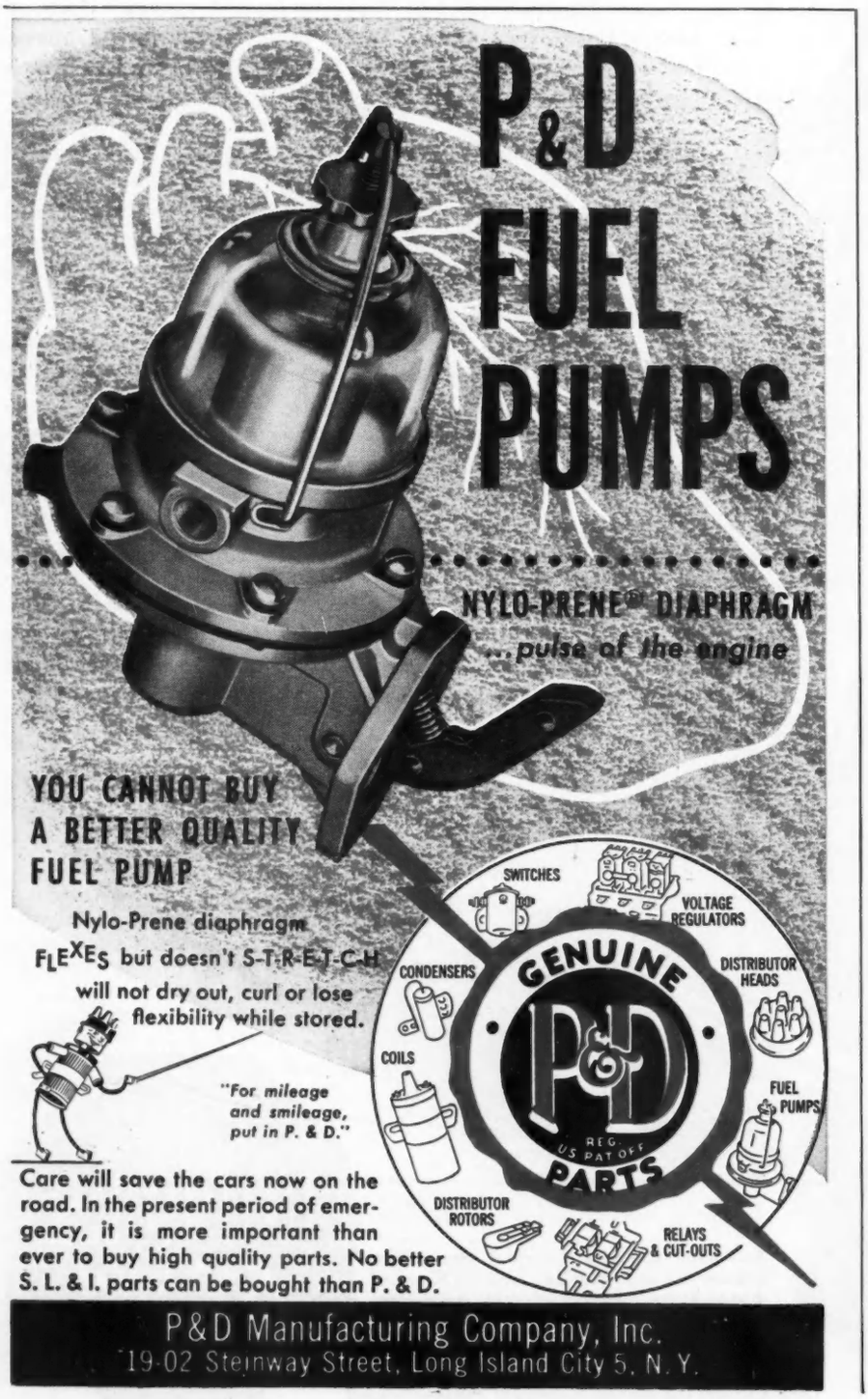
AMERICAN HAMMERED KOPPERS *K-Spun* POROUS CHROME PISTON RINGS

Only Koppers can furnish K-Spun or Porous Chrome!

FAN BELT SPECIFICATIONS for Trucks

TRUCKS

Vehicle Make and Model	Engine Make or Model	Circumference (In.)	Width (In.)	Angle of "V" (Deg.)
Autocar				
*C-50	....	50¼	¾	42
U-50	....	46	¾	42
*C-70	....	60½	¾	42
U-70	....	50½	¾	45
*C-90	....	60½	¾	42
U-90	....	50½	¾	45
C-8044	....	54	⅞	42
Brockway				
....	38B	54½	¾	42
....	40B	54½	¾	42
....	42BX	†56½	¾	38
....	46B	†65½	⅞	38
....	48B	65½	⅞	38
Chevrolet				
....	All	42⅞	11/16 max	‡
Coleman				
....	Buda L.O. 525	‡	....	....
Corbitt				
G101	Cont M6330	54¾	⅞	36
G301	Cont B6371	55½	1	42
G302	Cont B6427	57½	¾	38
G402	Cont T6427	57½	¾	38
G601	Cont R6513	66¼	⅞	38
G602	Cont R6572	66¼	⅞	38
G603	Cont R6602	66¼	⅞	38
D202	Her DJXH	49¼	.960	50
D401	Her DWXD	65⅞	.960	44
D402	Her DWXLD	65⅞	.960	44
D404	Cum JBS600	35½	.406	38
D601	Her DRXC	51¾	.938	44
D801	Cum HB600	41⅝	.438	42
D802	Cum HRB600	41⅝	.438	42
D803	Cum NHB600	41⅝	.438	42
D808	Cum HRBB600	41⅝	.438	42
Crosley				
CD-B	....	....	.719	34
CD-E	....	....	.719	34
Diamond-T				
222	....	47	⅞	40
322	....	47	⅞	40
404SC	....	50	⅞	40
420	....	46	⅞	44
509C	....	53⅜	⅞	40
509SC	....	46	11/16	40
520 (Hyd. Br.)	....	46	⅞	44
520 (Air Br.)	....	46	⅞	46
614C	....	53	⅞	40
614SC	....	46	11/16	40
620	....	See 520		
660	....	57	¾	40
720	....	57	¾	40
722	....	53	....	....
920	....	67	⅞	40
921	....	....	....	....
921R	....	....	....	....
Duplex				
TH	....	54½	⅞	38
TH339	....	62½	¾	38
RH	....	55	11/16	38
JH	....	53⅛	11/16	42
KH	....	53⅛	11/16	42
LH	....	53⅛	11/16	42
GR6	....	55	11/16	38
Freightliner				
A64	Cum NHB600	....	....	....
B42	Cum NHB600	....	....	....
Linn				
....	JXE3	34¼	11/16	40
....	JXC	44⅞	11/16	40
Marmon-Herrington				
DVL-4	....	82.7	1½	40
LD7-4	Ford	....	....	....
R3, R4	Ford	....	....	....
R5, R6	Ford	....	....	....
V5, V6	Ford	....	....	....
Q5, Q6	Ford	....	....	....
*Oshkosh				
W212	....	51	.380	36
W312	....	47¼	1.000	46
W1700	....	48¼	.960	38
WA703	....	45⅞	.960	38
W712	....	57	.380	36
W712-6X6	....	64	.380	36
Oshkosh (Cont.)				
WA906R	Cummins	....	....	....
WA2208	Cummins	....	....	....
W2209	Cummins	....	....	....
W2200	....	74	.925	46
W2201	....	74	.925	46
W2206	Hall-Scott	....	....	....
Reo				
F20	....	54	5/8	38
F21	....	54	5/8	38
F22	....	54	5/8	38
F22S	....	54	5/8	38
F23	....	....	....	....
F226	....	54	5/8	38
F236	....	....	....	....
Studebaker				
2R5	....	38	1⅛	40-44
2R10	....	38	1⅛	40-44
2R15	....	38	1⅛	40-44
2R6	....	42	11/16	40-42
2R11	....	42	11/16	40-42
2R14	....	42	11/16	40-42
2R16A	....	42	11/16	40-42
2R16B	....	42	11/16	40-42
2R17A	....	42	11/16	40-42
2R17B	....	42	11/16	40-42


P&D FUEL PUMPS
NYLO-PRENE® DIAPHRAGM
...pulse of the engine
YOU CANNOT BUY A BETTER QUALITY FUEL PUMP
Nylo-Prene diaphragm FLEXES but doesn't S-T-R-E-T-C-H will not dry out, curl or lose flexibility while stored.
"For mileage and smileage, put in P. & D."
Care will save the cars now on the road. In the present period of emergency, it is more important than ever to buy high quality parts. No better S. L. & I. parts can be bought than P. & D.
SWITCHES
VOLTAGE REGULATORS
CONDENSERS
DISTRIBUTOR HEADS
COILS
FUEL PUMPS
DISTRIBUTOR ROTORS
RELAYS & CUT-OUTS
GENUINE P&D PARTS
REG. U.S. PAT. OFF.
P&D Manufacturing Company, Inc.
19-02 Steinway Street, Long Island City 5, N. Y.

Fleet Passenger Cars and Buses

Supplying Circumference, Width and Angle of "V"

Vehicle Make and Model	Engine Make or Model	Circumference (In.)	Width (In.)	Angle of "V" (Deg.)
Willys				
All Models..	....	43.6-44.4	11/16	38-43

PASSENGER CARS

Vehicle Make and Model	Engine Make or Model	Circumference (In.)	Width (In.)	Angle of "V" (Deg.)
Chevrolet				
JJ.....	....	42 7/8	.688	32
JK.....	....	42 7/8	.688	32
2100.....	....	42 7/8	.688	32
Ford				
6.....	1HA	41 1/2	.380	40
V8.....	1BA	41 3/4	.380	38
Dodge				
6.....	D41	49	.375	36
6.....	D42	49	.375	36
Plymouth				
6.....	P22	49	.375	36
6.....	P23	49	.375	36
Studebaker				
6.....	10G	39 7/8	.688	....
V8.....	H	55 11/16	.380	....

BUSES

Vehicle Make and Model	Engine Make or Model	Circumference (In.)	Width (In.)	Angle of "V" (Deg.)
ACF-Brill				
C44.....	HS 180-1	40 right 48 3/4 left	3/4 3/4	38 38
C44.....	HS 190-2	40 right 48 3/4 left	3/4 3/4	38 38
C48.....	HS 190-2	40 right 48 3/4 left	3/4 3/4	38 38
IC-41A.....	HS 190-2	41 1/2 right 44 1/2 left	3/4 3/4	42 42
C27.....	IHC RD-372	58 1/16	11/16	40
C31.....	IHC RD-406	58 1/16	11/16	40
C31.....	IHC RD-450	58 1/16	11/16	40
Aerocoach				
373MC.....	....	55 3/8	1 1/16	40
373MN.....	....	50 1/8	7/8	42
373MD.....	....	55 1/4	1	42
Beaver				
.....	IHC	....	7/8	38
Beck				
Silverliner..	....	67 1/2	11/16	42
29.....	....	67 1/2	11/16	42
Mainliner...	....	66	11/16	46
Fitzjohn				
310 Cityliner	Her JXLD	56	.938	44
FTG City'r	Her JXLD	56	.938	44
FTG City'r	Her WXLD	66 1/16	11/16	32
FTD City'r	Her DWXLD	66 1/16	11/16	32
510 Duraliner	Her JXLD	56	.938	44
635 Sup. Dur.	Wau 140GK	65 1/2	1 1/16	46
Fixible				
*218B1-51....	....	60 1/16	11/16	40
♣218DWX1-51	....	61 1/2	7/8	40
GMC				
PDA-3704..	....	106 7/32	.909	42
TGH-2708..	....	45.4	3/4	38
TGH-3101..	....	45.4	3/4	38
For other Models See Footnote §				
Southern				
F31M.....	....	46.125	.825	46
F31H.....	....	46.125	.825	46
Southern (cont'd)				
F35M.....	....	46.125	.825	46
F35H.....	....	46.125	.825	46
S36M.....	....	46.125	.825	46
S36H.....	....	46.125	.825	46
S41M.....	....	46.125	.825	46
S41H.....	....	46.125	.825	46
S45M.....	....	46.125	.825	46
Southern (cont'd)				
S45H.....	....	46.125	.825	46
Transit				
‡01.....	....	63 5/8	5/8	38
White				
1136.....	....	39 3/8	3/4	42
1140.....	....	39 3/8	3/4	42
1144.....	....	39 3/8	3/4	42

*—Fan and generator.
♣—Fan and compressor.
■—Water pump and compressor.
†—Matched pair.
‡—30-32 deg cut molded or 34-36 deg wrapped molded.
▲—For standard accessories only.
§—Fan mounted on end of crankshaft.
‡—Gates No. 120T. Two required.

Keep'em ROLLING!
No. 8050 Heavy-Duty Four-Way Rim Wrench. Overall Length 25", Weight 14 lbs.
No. 2648 Two-Piece Rim Wrench Overall Length 18", Weight 5 lbs.
No. 7050 Two-Piece Rim Wrench Overall Length 20" Weight 4½ lbs.
No. WR-2640 Brace Rim Wrench Overall Length 31" Weight 6½ lbs.

with Apco Mossberg RIM WRENCHES

Speed Up Truck Repair Time

IN-THE-SHOP

ON-THE-ROAD

Powerfully constructed by steel-forging, these popular wrenches with heavy-duty abilities are designed to fit all makes and models of trucks. Rim wrenches are available in three styles — (1) Two-Piece (2) Four-Way (3) Brace. Each wrench features extra deep sockets for firm grip on nuts, ample leverage requiring less effort to disengage nuts, extra long lengths for sufficient clearance with wire wheels, deep hubs.

Apco Mossberg's complete line of truck wrenches and handy service tools are recognized for superiority by repairmen in fleet shops from coast to coast. Ask your jobber or write today for catalog and prices.

APCO MOSSBERG CO.

187 LAMB STREET, ATTLEBORO, MASS.

Trailer Maintenance Service Offered

A nationwide truck trailer preventive maintenance program started in March by the more than 80 sales and service branches of the Fruehauf Trailer Co. To launch the program, the branches will perform the following services without charge for all trailer owners, regardless of the make of trailer owned:

1. Inspect underconstruction; 2. Inspect the frame, including checking the sub-frame and cross-members for cracks; 3. Adjust the brakes; 4. Adjust wheel bearings; 5. Inspect supports; 6. Lubrication; 7. Check all lights; 8. Inspection of the body.

Every truck trailer operator who sends his unit to one of the Fruehauf branches will receive a written report on the condition of that unit. He can schedule needed repairs on the basis of that report and thus keep the unit in service.

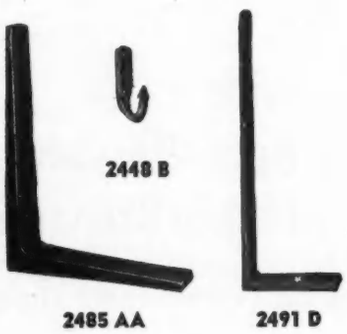
Fruehauf branches are also offering at nominal cost a continuing preventive maintenance program to every trailer operator. Ninety days (regardless of mileage) after the introductory preventive maintenance inspection, the branch will not only reinspect the trailer and lubricate it under that program, but perform the following services as well:

Pull the wheels; clean, inspect and repack the bearings; inspect cups; check and align axles; tighten U-bolts; then install the wheels with new felts and adjust the bearings. Written reports to the owner on conditions uncovered by the second check also will be routine.

Each 90 days thereafter, the minor inspection procedure is repeated, followed in a similar period with the major inspection and service. Costs of the preventive maintenance program are nominal—approximately 15 cents per day for tandem axle trailers, 10 cents per day for single axle trailers. Fruehauf also offers a lubrication service, recommended for each 2000 miles of service, to be performed between minor and major inspections.

"Cleveland"

SPECIALIZED STOCK FORGINGS AND QUALITY BODY HARDWARE



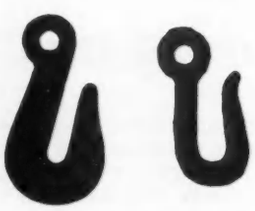
2448 B

2485 AA

2491 D

A COMPLETE LINE of truck, bus and trailer hardware, drop-forged body irons and fittings designed to give dependable service year after year.

Where attractiveness and ability to stand up under severe punishment are required, the custom and production builders of commercial bodies insist upon "CLEVELAND" products.



2408½ 2407 A

CLEVELAND PRODUCTS ILLUSTRATED

#2443-B—BINDING HOOK
5" overall, 9/16" round.

#2485-AA HEAVY CORNER IRON
For the heaviest trucks.

#2491-D CORNER IRON
Lighter pattern, from 12 to 24" high.

#2408½ GRAB HOOK
Suitable for ¼" to ⅝" chain.

#2407-A END GATE CHAIN HOOK
Furnished in most sizes.

#2801-A HEAVY DUTY TOWING HOOK
Also furnished in lighter pattern.

2801 A

ESTIMATES FURNISHED
on your Special Automotive Forgings or Die Castings to blueprint.

THE CLEVELAND HARDWARE and FORGING COMPANY

3264 East 79th St. Cleveland 4, Ohio

153-Ton Axle Load

This huge upsetting machine base was recently hauled 3½ miles from Little Falls, N. J. to the Curtiss Wright Corp., Caldwell, N. J. A careful count shows 26 tires distributed the load. The haul was made in a low-bed trailer pulled by a Mack tractor

"I gotta take a look at that waitress."

No other trucks on earth offer so much for so little

● By all standards, you'll find Marmon-Herrington *All-Wheel-Drive* Fords *the world's best buy* in multiple-wheel-drive trucks . . . best from the standpoint of performance-ability—carrying capacity—reliability—low operating and maintenance cost—ease and economy of service.

Today, Marmon-Herrington *All-Wheel-Drive* Fords are making tough jobs easy, all over the world—transporting capacity loads through deep mud, sand, snow; up steep hills and mountain grades . . . and doing it with amazing speed, ease and economy.

Marmon-Herrington *All-Wheel-Drive* Fords are available in 30 versatile models. Wheelbases range from 110″ to 220″—G.V.W. from 5,300 lbs. to 35,000 lbs.—forward speeds from 4 to 10.

Don't buy any truck until you've had an on-the-job demonstration in a Marmon-Herrington *All-Wheel-Drive* Ford. Write for name of nearest dealer and illustrated literature.

MARMON-HERRINGTON COMPANY, INC.
1521 W. Washington St., Indianapolis 7, Indiana

SERVICE AVAILABLE AT FORD DEALERS EVERYWHERE . . .

AUTHORIZED Ford SERVICE

Marmon-Herrington *All-Wheel-Drive* Fords are, for the most part, built of standard Ford Parts. Consequently, fast, efficient, low-cost maintenance and repair service is available at Ford dealers everywhere. When, occasionally, special parts are required, they are quickly obtainable through Marmon-Herrington distributors, conveniently located in principal cities the world over.

MARMON-HERRINGTON All-Wheel-Drive FORDS

New Product Descriptions

Continued from Page 51

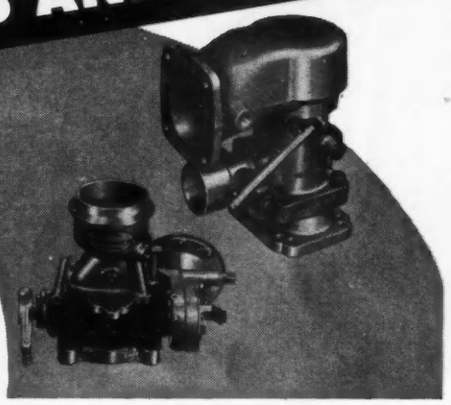
P168. Automatic Warm-Up

Here's one for sub-zero temperatures. Cray-Lincoln Eng. and Mfg. Co., N. Walpole, N. H. has marketed an automatic device that starts the engine of the vehicle as soon as the outside temperature reaches a preset point. Then, when the coolant reaches another predetermined temperature, the device shuts off the engine automatically. To prevent the motor from being accidently started while the vehicle is in gear, a neutral safety switch is included. The device is called "Redi-Warm" and is mounted on the steering post. It will shut the engine off if any attempt is made to put it in gear.

KNOWN FOR THEIR EFFICIENCY

- Easy Starting
- Perfect Idling

ON TRUCKS AND BUSES



MODELS DESIGNED FOR USE ON:

Fageol
Marmon-Herrington
General American
Aerocoach
Hall-Scott
A C F-Brill

CENTURY CARBURETORS for LP-Gas win top honors for economy and efficiency time after time in truck and bus tests because they are metering valve type — not a venturi type. They proportion air and fuel to exact ratios.

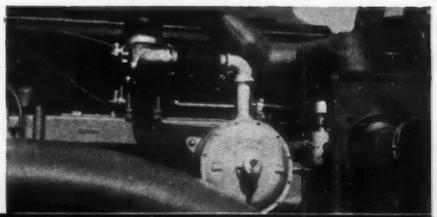
Century Carburetors are not "adapted" to an engine — they are especially designed and built for each application. Holly governor controls are incorporated where required. All dual-throat carburetors have single adjustment.

Sold only through distributors or to original equipment manufacturers.

CENTURY GAS EQUIPMENT CO. • 11188 Long Beach Blvd., Lynwood, California
Oldest Manufacturer of LP-Gas Carburetion

CENTURY

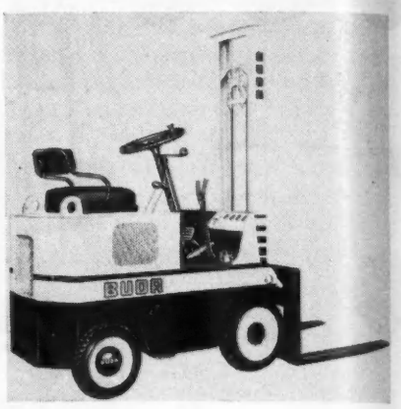
Typical truck installation of Century carburetor equipment



CARBURETORS for LP-Gas

P169. Fork Lift Trucks

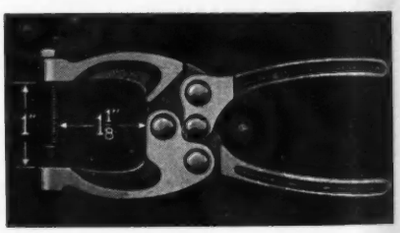
Shorter length, width, and turning radius are features of the new 2000-lb capacity fork trucks made by The Buda Co., Harvey, Ill. These two new units are available in 24 in. and 15 in. load center.



In model FB20-4 shown here, and the model FB20-15, a new design single gear shift lever mounted on the steering column, a full front vision instrument panel and a 9¼-in. clutch are additional features. Both models have a 4-cyl engine and have masts for lifting from 72 in. to 84 in., 108 in., 114 in. and 120 in.

P170. Metal-Holding Clamp

A portable plier-type toggle clamp "De-Sta-Co" has been introduced by Detroit Stamping Co., Detroit, Mich.

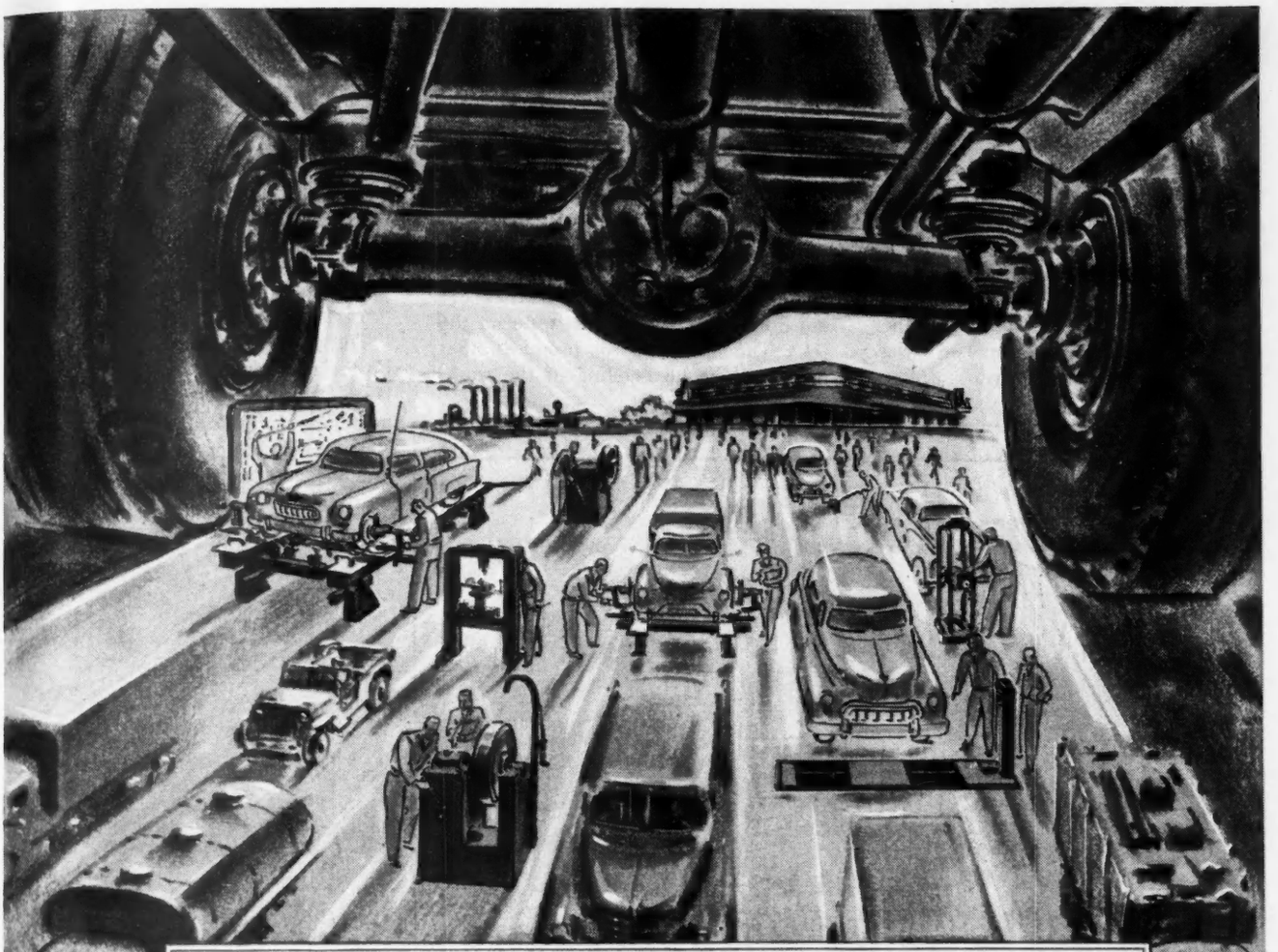


The new clamp is suitable for any sheet metal and body work, for holding metal, wood or plastic parts during machining, welding and cementing operations, holding in a locked position. The clamp is 4½ in. long, weighs 5 oz and is suited for one-hand use.

P171. Cargo Box

A cargo container that can be knocked down and returned flat has been announced by Jerves B. Webb Co., Detroit. The box is metal, without lid, made of square steel tubular frames with corrugated steel panels and floor. The floor sits on square legs that act as locks when inserted in the top of

(TURN TO PAGE 264, PLEASE)



TO KEEP THEM ON THE GO

The No. 1 Job of America's Fleet Operators

America learned the hard way in World War II the value of proper wheel balancing and alinement in keeping America's vital fleets on the go! Again the fleet operator is faced with the job of keeping his equipment on the job . . . by preventing wasteful tire and steering parts wear.

For over 20 years the fleet industry has used "Bear" Safety Service Systems to cut tire wear, reduce front-end parts replacement, minimize driver fatigue, increase safety, reduce load breakage caused by excessive vibration and cut time-wasting out-of-service layups.

Recognized as a necessary precaution yesterday, "Bear" Alinement Service is indispensable today to the fleet operator!

To do this all-important job, it takes machines and men. "Bear" is ready with a complete range of balancing and alinement equipment . . . up-to-date scientific techniques . . . and the training facilities for turning out more skilled mechanics to take care of the bigger-than-ever service demands.

All of these services, backed by the experience of "Bear" techniques and engineers can be invaluable to you in keeping your fleets on the road and helping to do their part in America's Mobilization Program. For further information write: "Bear" Mfg. Company, Dept. C-3, Rock Island, Ill.

The Skilled Manpower To Keep Them On The Go.

Any equipment is only as good as the man operating it. That's why for over 20 years "Bear" has maintained the famous "Bear" School in Rock Island. Every year hundreds of factory trained mechanics are turned out qualified as specialists in frame straightening, wheel alinement and balancing. Today, with the manpower situation tightening up, "Bear" is ready to help provide enough trained mechanics to meet the demands of the automotive service industry.

BEAR *Alinement Service*

Illustrated in action above

STATIC AND DYNAMIC WHEEL BALANCERS

DRIVE-OVER ALINEMENT TESTER

WHEEL STRAIGHTENER

COMPLETE ALINEMENT AND FRAME STRAIGHTENING SERVICE

R5457CC

New Products

Continued from Page 262

another box. In this way, the manufacturer states, the boxes may be piled one on another to an indefinite height with a minimum possibility of tilting or tipping.

Each section of the side panel interlocks in place with the panels on either side. The boxes come in two sizes, 27.5 and 30 cu ft capacity.

P172. Steam-Jet Cleaner

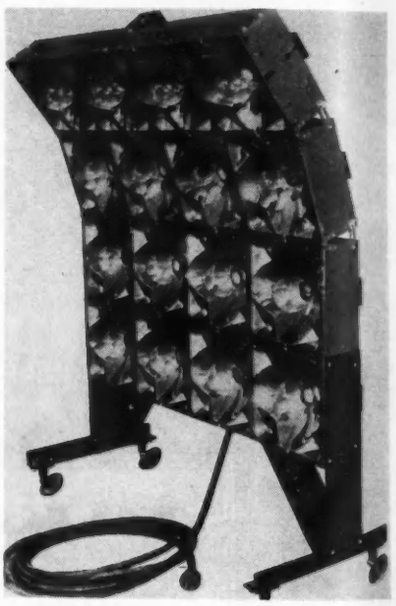
A low cost steam-jet cleaner has been announced by Livingstone Engineering Co., Worcester, Mass. The manufacturer states that this model, JC-10, requires about 18 x 14 in. floor space, weighs less than 100 lb. and is equipped with 8 in. rubber-tired wheels.

The JC-10 uses steam from the built-in high pressure boiler. Small quantities of solvents are used, as they are not diluted by mixing with water at the jet. The maker also promises that there will be no flooding of the working area, no smoke, flames, or fire hazard and no low-water danger. The boiler water itself is the electric resistance heating element and if there is no water, no current can pass and no steam is generated.

The unit operates on standard 115 v. current but may also be adapted for 3 phase 220, 440, or 550 v. lines.

P173. Portable Paint Dryer

The Fostoria Pressed Steel Corp., Fostoria, Ohio, announces the 1951 Durabake line of infrared drying equipment featuring a new portable dryer as well as two improved ovens. All units are now underwriter approved.



This new model 80-448 is large enough to handle areas up to 4 x 4 ft, it is compact and mobile and can be readily used in tight quarters. It does not require expensive initial wiring, as the unit can be used on any ordinary 15 amp 115-230 v lighting circuit, according to the manufacturer.

P174. Oil Filter Cartridge

Wisconsin Motor Corporation, in collaboration with Wix Accessories Corporation, announces the development of a super filter, designed to match the lubrication system of the V-type 4-cylinder Wisconsin air-cooled engines. Called the Micro-Fine Oil Filter Cartridge, it is a combination of two filtering mediums, virgin cotton and plastic impregnated wood cellulose. This filter removes solids of micron size, measuring less than 1/1000 of an inch. It holds its own dry weight of acids, dirt, and filings, according to the manufacturer, and is competitively priced.

(TURN TO PAGE 268, PLEASE)

Keep 'em Rolling—

with

these NEW TRUCK & TRAILER DOORS

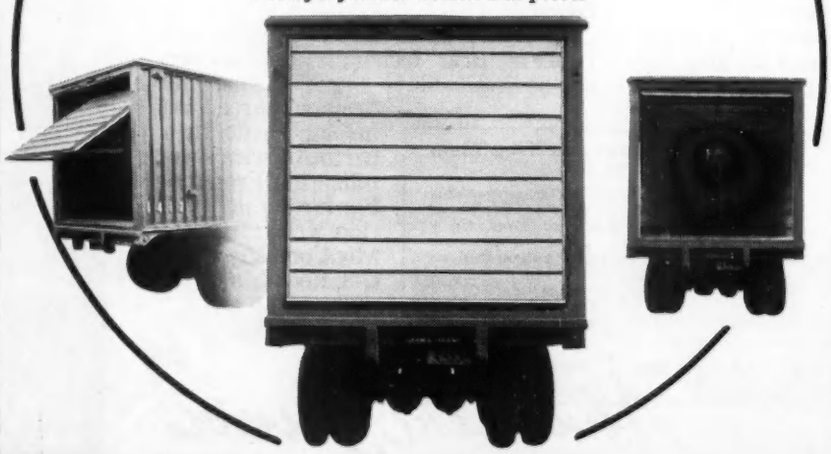
Cost only half as much as other doors

● ECONOMICAL—*Save* on initial cost—*Save* on repairs—*Save* time in backing in and leaving dock—*Save* the time trucks and trailers are normally in repair shop with other type doors.

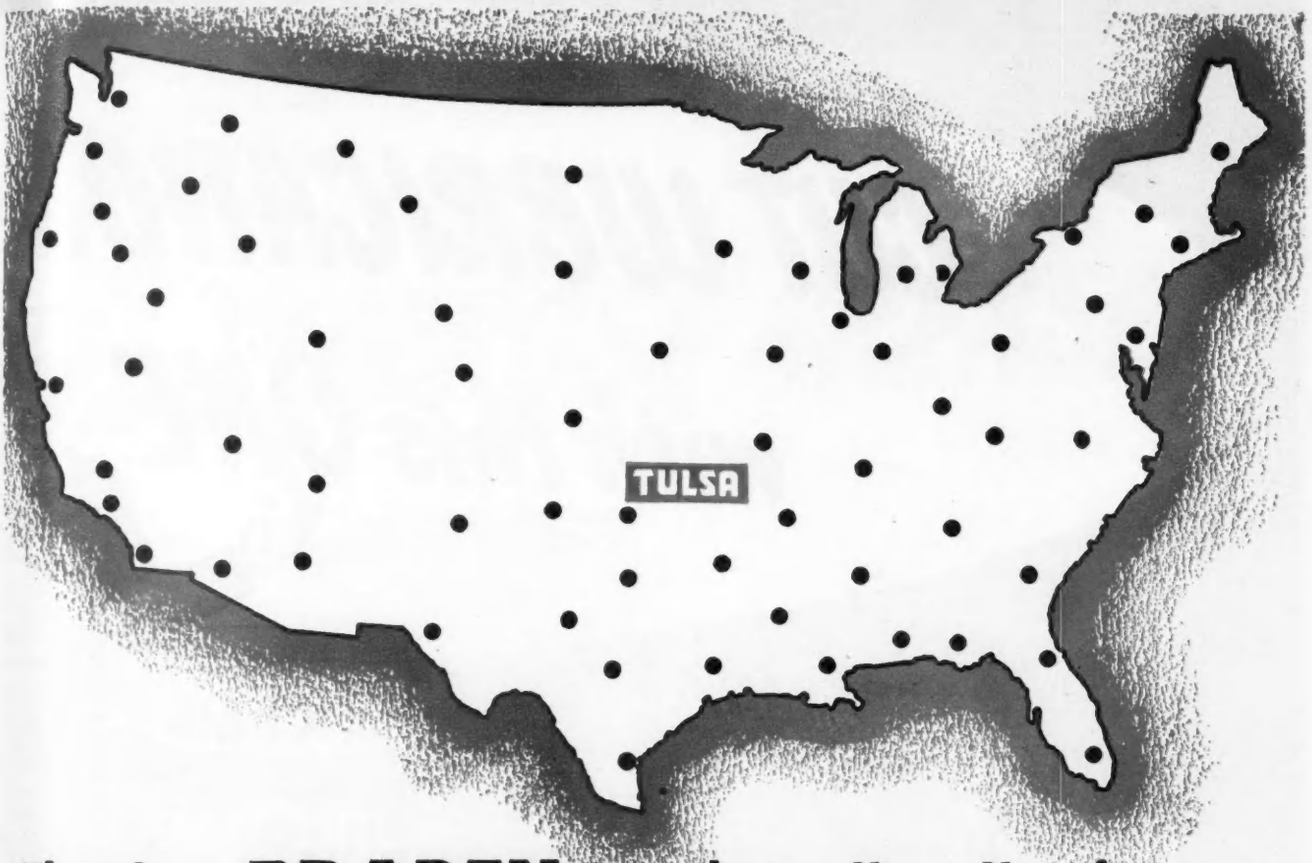
● EASY TO OPERATE—Open and close easily—Drivers like them—Handy on Peddle Runs—Easy to keep door closed when away from truck or trailer.

● ATTRACTIVE—They look neat—Doors don't get banged up—They keep trucks and trailers looking attractive.

Write for further details and prices



R. L. TAYLOR *National Sales, Inc.*
12480 Evergreen • Detroit 28, Michigan



There's a **BRADEN** Distributor Near You for . . .

Fast Service

Braden Winch distributors are strategically located to adequately serve all winch operators in every state in the Union. These distributors are selected because of their ability to give the best possible sales and service help to users of truck winches. Look in the yellow pages of your telephone book or contact the Braden Factory for the name of your nearest Braden distributor.

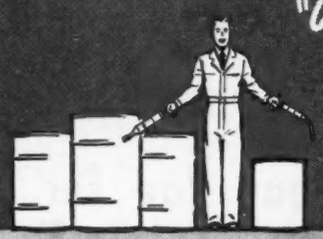
BUY BRADEN—They are Safer

BRADEN WINCH COMPANY
Post Office Box 1709

BRADEN *Winches*
SERVICE AROUND THE WORLD

TULSA 1,
Oklahoma

CUT LUBRICATION with this ONE



"Using LITHOLINE® saves several greases and guns!"

Now you can do all lubricating jobs just as well *if not better* with one grease and one gun, using Sinclair LITHOLINE.

Using Sinclair LITHOLINE is the modern, fool-proof, money-saving way to handle all your lubrication jobs. LITHOLINE converts servicing time into production time.

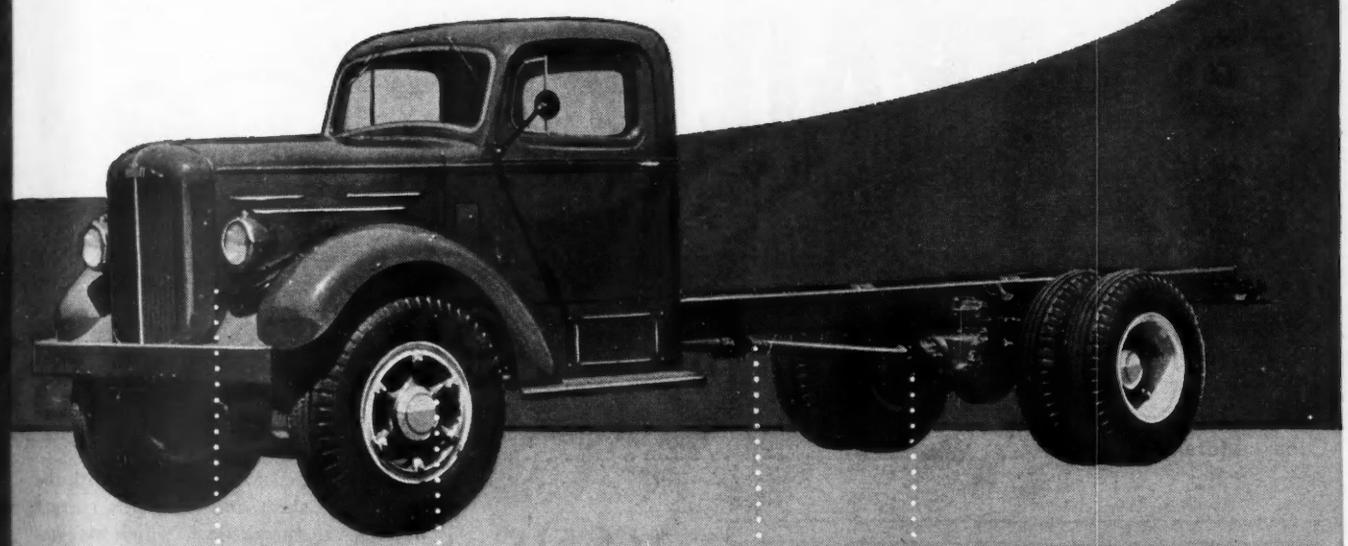
ADVANTAGES OF LITHOLINE over specialized greases:

- SUPERIOR LUBRICATION AT EVERY POINT
- No danger of costly misapplication
- Quicker servicing, less downtime
- Smaller grease inventories
- Fewer dispensing units
- Less chance of contamination
- Less waste
- Simplified purchasing and distribution

Send for free folder describing demonstrations showing the superiority of LITHOLINE. Write to your nearest Supplier of Sinclair Products or direct to Sinclair Refining Company, 630 Fifth Avenue, New York 20, N. Y.

SINCLAIR

COSTS ALL-PURPOSE GREASE



Litholine stays put in **WATER PUMPS**

WHEEL BEARINGS are safe with Litholine

Litholine for lasting **CHASSIS** lubrication

Litholine is top quality for **UNIVERSAL JOINTS**

LITHOLINE for every lubrication job

New Products

Continued from Page 264

P175. Truck Trestle

A 10-ton truck trestle has recently been introduced by Manley Division of American Chain & Cable Co., Inc., York, Pa. It has a low position of 30 in.—high position 50 in.—and weighs 90 lb. The trestle is braced, welded and has a locking pin arrangement which prevents accidental release of trestle, the manufacturer claims.

P176. Builder's Hand Saw

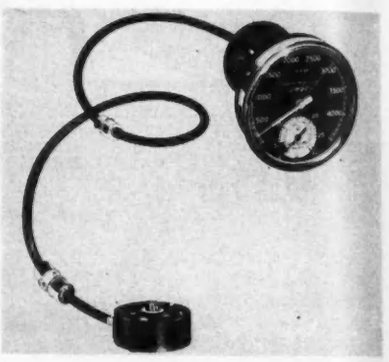
Cummins Portable Tools of Chicago has introduced two power saws designed for heavy construction jobs.

Model 905 has an 8-in. blade and will cut 2⅝ in. square or 2 3/16 in. at 45 deg. It has a universal ac-dc motor at 115 or 220 v, a no-load speed of 3600 rpm. The new model 1000 saw cuts 1 in. to 3 7/16 in. at 90 deg and ¾ in. to 2 3/16 in. at 45 deg. Its no-load speed is 3400 rpm.

P177. Electric Tachometer

A new electric tachometer designed to give accurate reading of engine revolutions with no lag or over run, has been announced by the instrument division of Stewart-Warner Corp., Chicago.

The drive design consists of a sending switch attached to the distributor, and the tachometer head which is mounted on the steering post or dash. Power comes from the vehicle's electric system.



The sending switch revolves with the distributor shaft and transmits current impulses to the receiver which actuates the tachometer mechanism and pointer. The device uses no relays, oscillators or gear or flexible shaft arrangements.

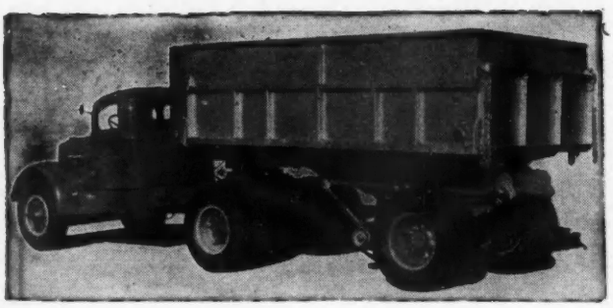
There are three models, standard, recorder and vac-tach, all for 6 v systems. The standard is for 6 v systems and records up to 450 engine rpm. The recorder model records the engine revolutions up to one billion. The vac-tach model is a 3-way combination with an odometer, tachometer and built-in vacuum gage.

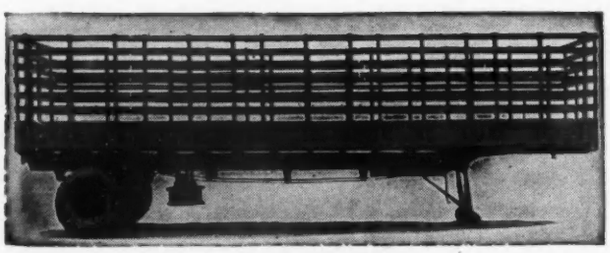
(TURN TO PAGE 270, PLEASE)

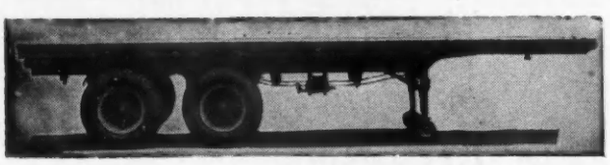
TEC TRAILERS

DUMP UNITS

For Bulk Hauling of Coal, Sand, Gravel and Other Materials







VANS STAKES FLATS

Single and Tandem Axle. All Sizes and Models

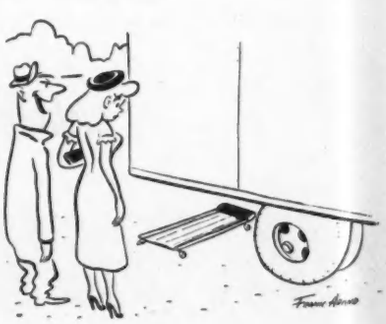
TEC TRAILERS are designed to haul maximum payload with minimum dead weight, and provide long life with low maintenance cost. Prompt delivery can be made on standard models.

TEC TRUCK ENGINEERING CORP.

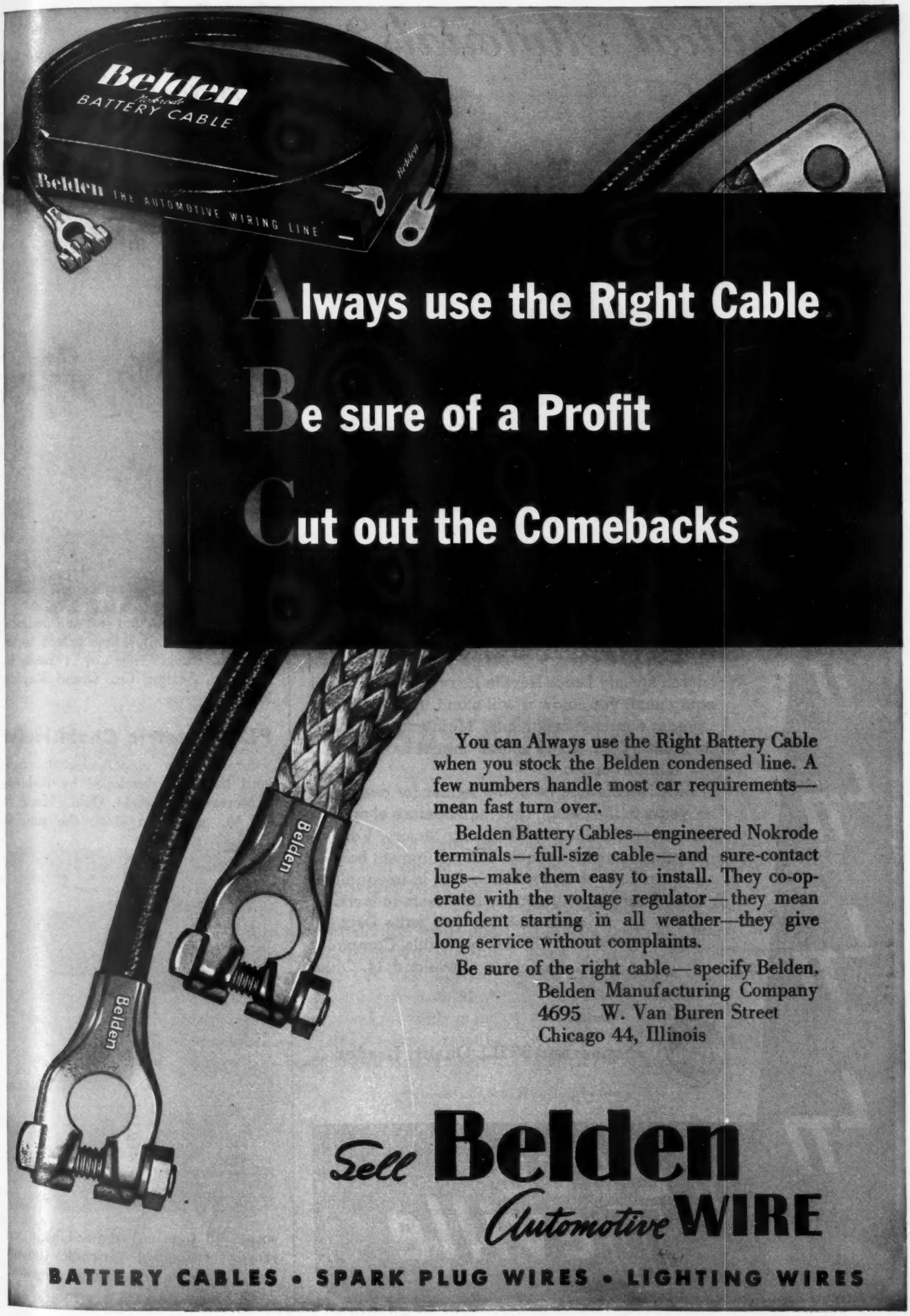
Some Distributor Territory Available

TRUCK ENGINEERING CORP.

CLEVELAND 2, OHIO



"It's called a creeper, Miss Burnhart, would you like to see how it works?"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BATTERY CABLE
Belden THE AUTOMOTIVE WIRING LINE
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Be sure of a Profit
Cut out the Comebacks
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You can Always use the Right Battery Cable when you stock the Belden condensed line. A few numbers handle most car requirements—mean fast turn over.
Belden Battery Cables—engineered Nokrode terminals—full-size cable—and sure-contact lugs—make them easy to install. They co-operate with the voltage regulator—they mean confident starting in all weather—they give long service without complaints.
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4695 W. Van Buren Street
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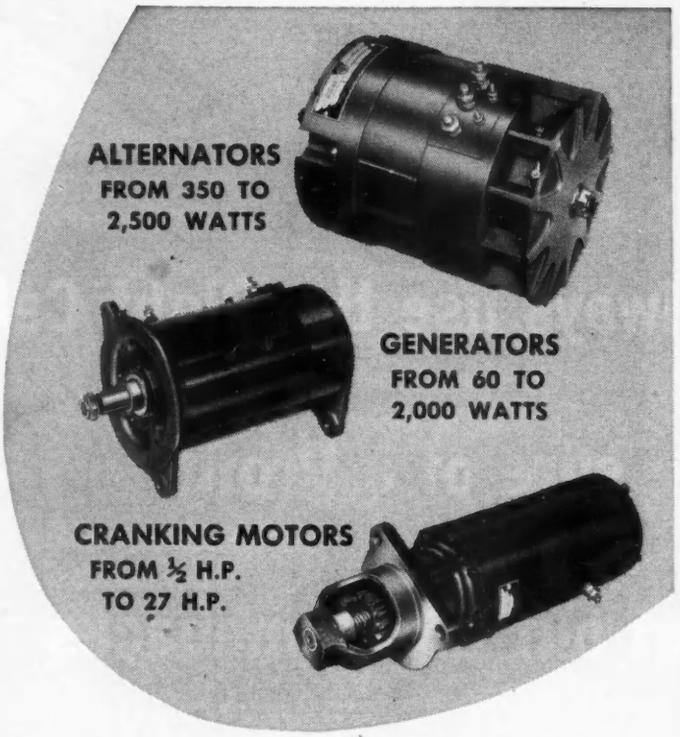
Critical Materials?



Here's one way to save

When you specify Leece-Neville heavy-duty electrical equipment, you know it will stand up and deliver under toughest conditions. Maintenance is at a minimum. That saves scarce materials . . . and manpower too.

Leece-Neville has been the leader for over forty years in the design and manufacture of special Generators, Alternators, Cranking Motors, Voltage Regulators and Switches. This equipment has set a record of performance that is unequalled.

A word from you will put our Engineers to work on your problem. Just write Dept. 10, The Leece-Neville Company, Cleveland 14, Ohio.

Pioneer and STILL Quality Leader . . .

Leece-Neville

New Products

Continued from Page 268

P178. Truck Seat

A new truck seat, developed primarily for multi-stop, door-to-door delivery vehicles, and known as the 0-4345 Tilt-Away Truck Seat, is now being marketed by American Seating Co. Back

folds over on seat, and seat and pedestal tilt forward to allow free access to interior of truck. The unit is made by American Seating Co., Grand Rapids, Mich.

P179. Electric Chain Hoist

An economy model electric chain hoist has been developed by Robbins & Meyers, Springfield, Ohio. Made in ¼, ½, and 1-ton sizes, the unit is

suspended from an overhead hook arrangement adaptable for trolley mounting. The housing is of aluminum alloy.

(TURN TO PAGE 272, PLEASE)

No lost space in this body.

This Giant Mobile Parts Store carries 3200 different items. LS body built by Winter-Weiss, Denver.

WHATEVER YOUR HAULING NEEDS

LS body for this ambulance for small animals was built by Watkins Body Corp., Buffalo, N. Y.

It Pays to Use a LINDSAY BODY* *Built for the Job*

Whether you operate one truck or a fleet—you, too, will find that it pays to use a Lindsay Structure body *built for the job.*

With Lindsay Structure you not only get a body built to fit your specific needs, but you also get the "bonus" advantages of this patented method of construction—light weight with great strength . . . long life . . . ease-of-repair.

There is a body manufacturer servicing your locality who specializes in using Lindsay Structure for his truck bodies. Ask him to show you why one of these handsome all-metal bodies built for *your* job is an investment that pays dividends for years and years in efficient, low-cost delivery operation.

If you do not know your nearby Authorized LS Body Manufacturer, write us for his name and address. It will pay you to meet him.

*A truck body built of Lindsay Structure

LINDSAY STRUCTURE

Lindsay Structure, Inc.
5000 West Dempster St., Skokie, Illinois

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

New Products

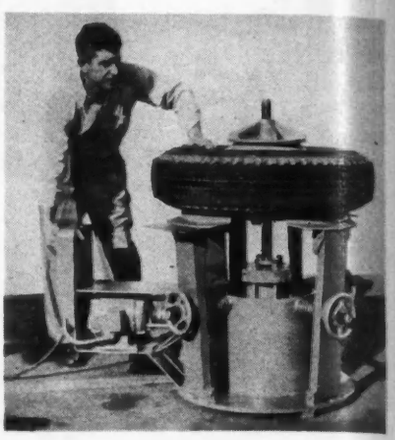
Continued from Page 270

P180. Tire Breakdown Tool

A ram-type hydraulic tool for removing tires that have been on the rims for long periods of time has been introduced to the industry by Salsbury Corp., Los Angeles, Calif.

The unit has four supporting arms which hold the tire and wheel in a horizontal position. Through the center of the arms is a shaft which extends from a hydraulic ram. The upper end of the shaft is threaded and the truck wheel is mounted on a holding plate and nut. Then, four curved adjustable shoes are inserted between the tire and rim, similar to the position formerly used by a hand tire iron.

To operate, the repairman presses a button which forces the wheel down through the tire by the hydraulic ram. The shoes follow the form of the flange, thereby eliminating any possibility of damage to the bead. These shoes may be adjusted to accommodate rims from 15 in. to 24 in. The wheel supporting arms can also be adjusted to the required wheel size.



By its push-button operation, the machine may be instantly stopped at any time during the operation for inspection and held in that position. This eliminates the danger of any unnecessary forcing.

P181. CO2 Tank Scale

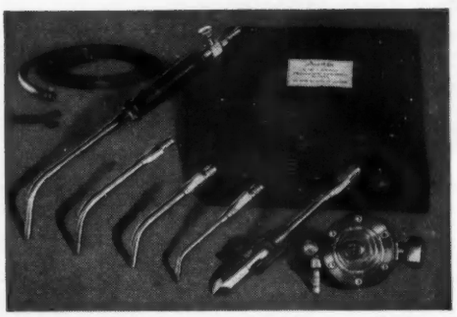
Announcement of a device for weighing carbon dioxide system cylinders has just been made by American-LaFrance-Foamite Corp., Elmira, N. Y.

Without taking the system out of service, the operator is only required to loosen the clamp bolts holding the cylinder, insert the fulcrum under the neck of the valve, press hand lever until cylinder clears the floor, and read the scale for the weight.

It is called the Alfco System Weighing Device, is made of channel iron and has a capacity for weighing up to 200 lb.

(TURN TO PAGE 274, PLEASE)

Soldering Doesn't Cost Me A Cent



"Prest-O-Lite" 5-in-1 Outfit $22.50

Since I Changed to This Outfit

Here's the way I figure it. I used to pump, prime, and generate before I could start work. Now I just turn a valve and flick a lighter. I get full heat instantly and save 5 to 10 minutes every time I light up. That's worth money . . . enough to work my new "Prest-O-Lite" Outfit for 54 minutes on an average job! By the end of a day, time saved this way has paid for all the "Prest-O-Lite" Acetylene I've burned.

What's more, my 5-in-1 Outfit handles easily and always gives me the exact flame and heat I want. So jobs go faster, too. I figure this extra time saved pays for my solder and flux. This way, soldering doesn't cost me a cent!

Ask your Jobber or write for more details. Linde Air Products Company, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. In Canada: Dominion Oxygen Company, Limited, Toronto.

"Prest-O-Lite" is a registered trade-mark of Union Carbide and Carbon Corporation.

Order from your local Jobber

Know How

KELSEY-HAYES, known for Know-How in products for peacetime and defense production.

Kelsey Hayes

8 KELSEY-HAYES WHEEL COMPANY PLANTS:
4 KELSEY-HAYES PLANTS IN MICHIGAN
McKEESPORT, PENNSYLVANIA • LOS ANGELES, CALIFORNIA
DAVENPORT, IOWA • WINDSOR, ONTARIO, CANADA

New Products

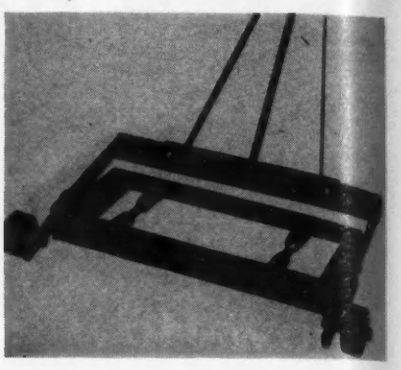
Continued from page 272

P182. Puller Sets

Four puller sets have been announced by Plomb Tool Co., Los Angeles, Calif. Set No. 4000AB includes six basic pullers—heavy, medium, light, wheel, slide hammer, and bearing separator types plus 28 supplementary parts. Set No. 4010C is a heavy-duty type with regular and cap-screw jaws. It both pushes and pulls. Set No. 4020C has two cap screws and a slotted cross arm that permits adjustments up to 6 in. Set No. 4056A is a slide-hammer type with a short rod and two long, narrow jaws. It removes all bearings with a bore of 5/8 in. to 1¾ in.

P183. Wheel-Tire Lifter

A roller mounted tire cradle has been introduced by Jaco Products Co., Philadelphia, Pa., which eliminates many hazards in removing large truck tires. When the truck is jacked up about 2 in. and the rim unbolted, the rim-lifter is slid under the casing and supports the tire as it is slid off. The device is



made for any size single or double tire unit. It is of welded steel construction and weighs 35 lb. It may be dismantled and carried with the vehicle for emergency road changes.

P184. Accelerator Check

"Speed-Minder," a new device made by Speed-Minder Laboratories, Chicago, which clips to the accelerator pedal, may be adjusted to various positions, allowing the pedal to be pressed only to that point. If an emergency requires additional acceleration the operator may press harder against the

stopper spring. The manufacturer states that this greatly reduces the "gunning" habit of drivers, providing a more even running rate, and a safety feature as an over-speed corrective. On long distance trips, the accelerator pedal becomes a convenient foot rest, where constant pressure will maintain even speed at its setting.

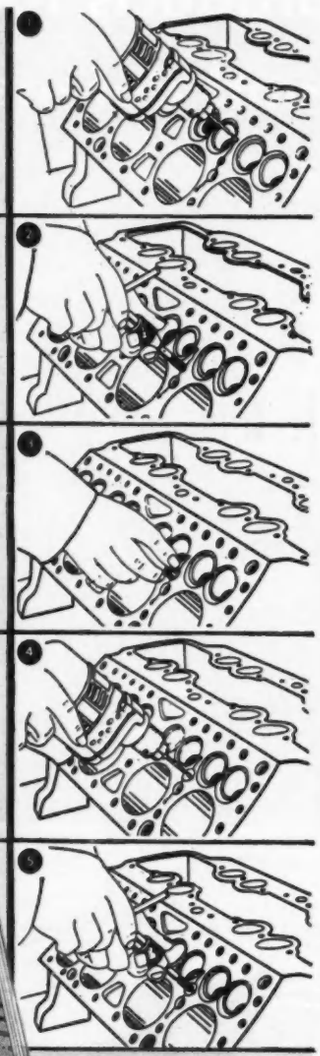
P185. Ignition Wrenches

A new combination wrench being featured by Bonney Forge & Tool Works, Allentown, Pa., is designed for Ford carburetors and ignition fittings. Formed with 25 deg angle, the new wrench has open end and box end openings of ½ in. and is 6 in. overall in length.

(TURN TO PAGE 276, PLEASE)

What's the best way to repair a crack at cylinder head stud?*

See page 13 of the new Tincher CRACK REPAIR Manual! This helpful new manual shows you how to make this and other crack repairs in the quickest and easiest way. Step-by-step instructions are fully illustrated by drawings like those shown here in reduced size. There is complete coverage of such important subjects as "Types of Cracks and Their Causes" . . . "Methods of Repairing" . . . and "How to Analyze the Problem." And this Manual tells you, too, how the Tincher Electro-Mechanical Process can become an important source of profits for your shop.



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TINCHER
Alloy-Seal
Wholly owned subsidiary of IDEAL INDUSTRIES, INC.
90% of all common cracks in engine blocks and heads can be repaired simply by circulating Tincher Alloy Seal as instructed on the can.

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909 Borden Avenue, Sycamore, Illinois
Please send me the Tincher CRACK REPAIR Manual, FREE!

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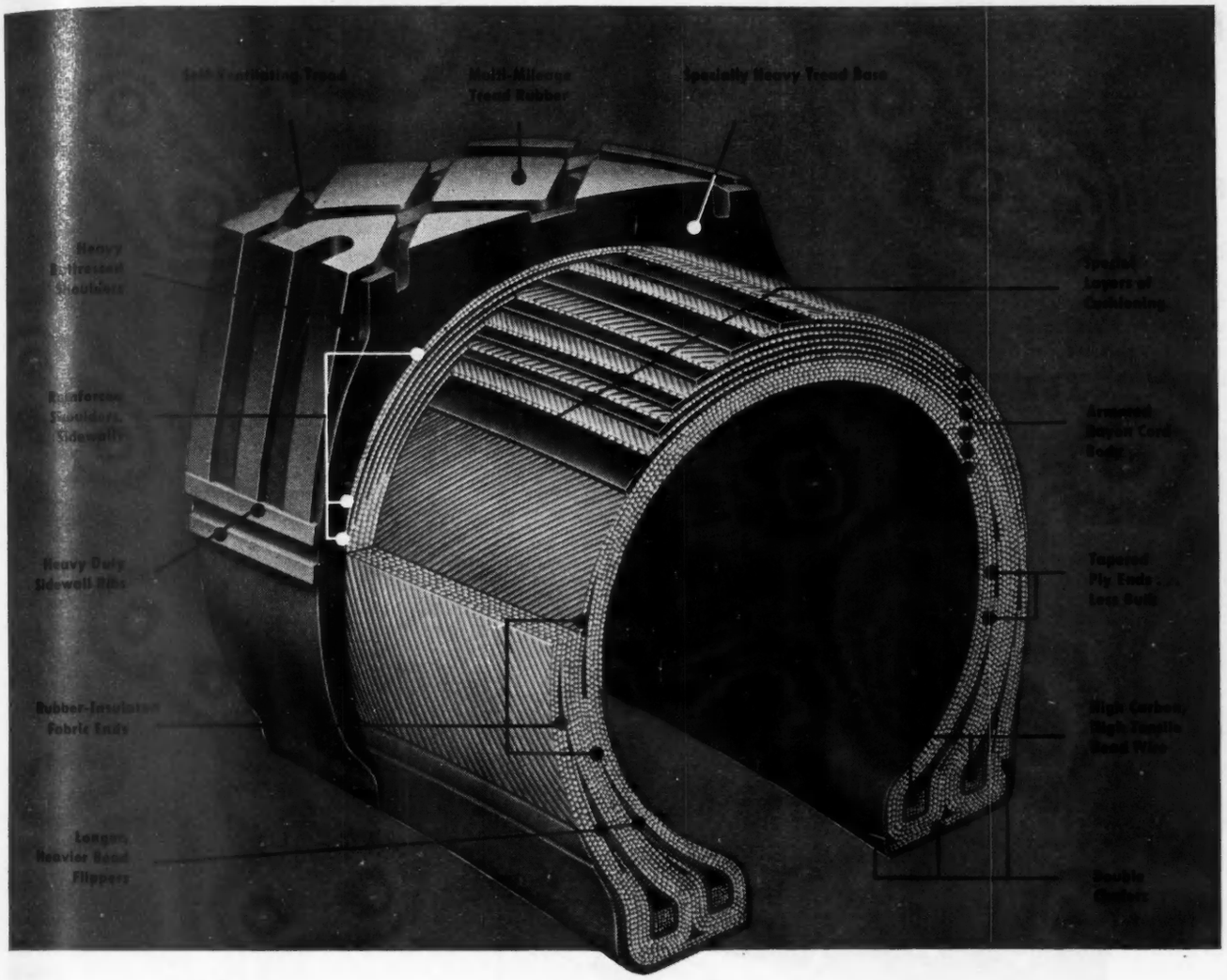
JOBBER'S NAME



cross section of a cost cutter

Here are 13 sound reasons why Cooper truck tires consistently deliver top profit payloads on the world's toughest hauls. Each reason contributes to lower truck tire costs—from the extra layers of special cushioning that uniformly distributes the destructive forces of stress and strain to the double cord breakers that add extra strength at the shoulders and sides. Each will be more fully appraised by the friendly Cooper dealer nearest you—no obligation, of course. Why not call him today—especially since present uncertainties call for truck tires built to deliver more original and recap miles than ever before.

Cooper

TIRE & RUBBER COMPANY

Factories at Findlay, Ohio

TIRES • TUBES • BATTERIES • ACCESSORIES • REPAIR MATERIALS

New Products

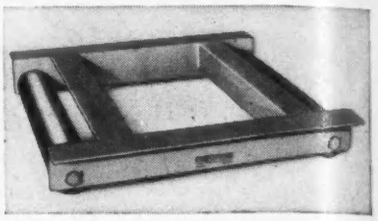
Continued from Page 274

P183. Junction Boxes

Heavy-duty weatherproof junction boxes made of cast aluminum are announced by the Stone Manufacturing Co., Elizabeth 4, N. J. They include a variety of covers and fittings for use on almost any outdoor wiring or lighting job. The box itself has four hubs tapped ½ in. IPS, is provided with or without mounting lugs, has a flat aluminum cover plate sealed with a cork gasket and a separate cast aluminum cover tapped ½ in. IPS. It takes standard lamp holders for the 150-300-watt outdoor reflector bulbs.

P184. Pallet Dolly

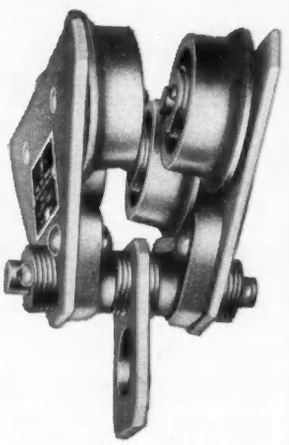
A time-saver in unloading or loading of trucks has been marketed by Olson Mfg. Co., Chicago, in the form of a two-roller dolly. In loading operations, the dolly is put on the tail gate of the truck, a loaded pallet is put on the dolly by a fork truck, and the load may then be rolled into the front of the body for stacking. In unloading operations, the dolly and an empty pallet are loaded and rolled to the tailgate where the operation by fork truck proceeds.



The manufacturer believes that the device is time and labor saving, that loading-dock space may be saved, loading ramps are no longer needed, as the fork truck need not enter the truck body. The dolly has continuous roller faces that distribute heavy loads and minimize wear and tear on truck or trailer beds. The dolly will hold 4000 lb., the maker states.

P185. Hoist Trolleys

For users of overhead hoist equipment Wright Hoist division of the American Chain & Cable Co., York, Penna., has a new trolley unit. It will take from ½ to 3 ton capacity hoists.



The trolley features chilled tread wheels, roller bearings, steel axles, equalizing pin becket strap all held between two heavy steel side plates. The unit is available only for standard I-beam sizes.

P186. Vapor Extinguisher

A one gallon vaporizing liquid fire extinguisher named the Air-Flo has been announced by the Buffalo Fire Appliance Corp, Dayton, Ohio. Two air pumps build up internal air pressure which forces the liquid out in a stream up to 30 feet. Light weight and easy to handle, this new extinguisher offers effective protection against electrical

[TURN TO PAGE 278, PLEASE]

Keep HOT TIRES Airtight

USE HI-TEMP Heat-Resisting VALVE INSIDES AND CAPS Developed by DILL

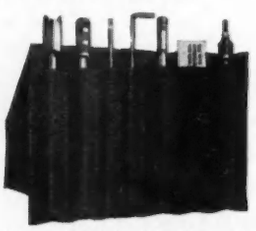
No. 100-AH
Valve inside with special heat-resisting rubber in cup and on barrel.

No. 632
Dome-type cap with swivel gasket of special heat-resisting rubber.

No. 631
Hexagon-type cap with lead gasket mounted over brass sleeve.

Ask for Dill "Hi-Temp" in the new Orange and Yellow carton.

Wherever tire heat is a problem, fleet owners everywhere are equipping their tires with DILL HI-TEMPS. Under abnormal hot tire temperatures, even up to 300°F. and more, the newly developed heat-resisting air seal keeps Dill HI-TEMP valve insides and caps airtight. Prevent tire trouble — stop costly road delays and tire repair expense by equipping your tires with Dill HI-TEMPS, now. Your wholesaler, tire or oil company can supply you, today.



NEW Long Handled VALVE REPAIR TOOLS

Save time and trouble for your tire serviceman with this new handy kit of long-handled tools. Especially designed to reach inner dual tires for removing and replacing valve insides, and making necessary repairs on valve stems. A handy leather pouch with snap button lock holds the complete set of 6 tools and fits handily in pants, coat, or jacket pocket. Order from your wholesaler, tire or oil company, or write for descriptive folder.

No. 5200 TOOL SET
in Handy Leather Pouch
INCLUDES THESE TOOLS

No. 5201	Valve Inside Inserter and Extractor
No. 5202	Valve Cap Tool
No. 5203	Valve Inside "Easy-Out"
No. 5204	Valve Stem Refacer
No. 5205	Valve Stem Seat Cleaner
No. 5206	Valve Stem Rethreader

THE DILL MANUFACTURING CO.
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Just like Finding Money!

Mr. Milburne E. Edwards, president of Red Top Cabs, Inc., operates a fleet of 40 taxicabs in Norfolk, Virginia. His experience proves that using Pure Oil products and service helps can be *just like "finding" money!*

Pure Oil's exclusive Cost-Cutting Plan for Fleet Operators Helps Red Top Cabs, Inc., save up to $450 per month!

Red Top President Edwards of Norfolk, Va., started profiting from Pure-Sure analysis of his used motor oil —a vital part of Pure Oil's Cost-Cutting Plan for Fleet Operators—in January, 1949. He writes:

"The use of this service, in our opinion, is directly responsible for . . . increased gasoline mileage, lowered oil consumption . . . fewer replacement parts . . . the savings amount to approximately four hundred and fifty dollars per month."

This is just one example of how Pure Oil helps fleet operators *cut* cost per mile. For full details of how Pure Oil's Cost-Cutting Plan and great new line of fleet lubricants can help you do the same, see your Pure Oil salesman or call your local Pure Oil office today.

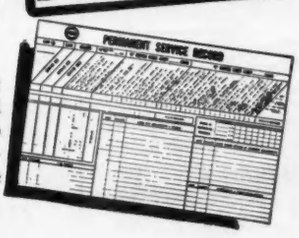
THE PURE OIL COMPANY
General Offices: Chicago

Four ways you can slash cost per mile with Pure Oil's Cost-Cutting Plan:

1 **Expert "trouble-shooting."** Let the Pure Oil Company's Technical Service Department provide a *free* Pure-Sure Analysis of your used motor oil . . . tell you whether you can extend filter change periods, correct faulty combustion, reduce engine wear, or improve engine cleanliness.

2 **Exact, correct lubrication.** Use Pure Oil's exclusive "serviceman's view" Lubrication Guide Charts to insure correct, effective lubrication at every vital chassis and under-hood point.

3 **Systematize and simplify!** Use Pure Oil's new and practical P. M. Service Records to streamline your own program of preventive maintenance and make it more efficient.



4 **Cost-cutting lubricants.** Protect your equipment —trucks, buses and tractors—with new Purol Heavy-Duty Motor Oil and the other great new Pure Oil fleet lubricants. Purol H. D. meets and exceeds the new MIL-O-2104 specifications . . . is fully fortified for heavy-duty service.

Purol H.D.

THE OIL THAT CAN TAKE IT

Be *sure* with Pure . . . fleet lubricants . . . gasolines . . . tires . . . batteries and accessories

New Products

Continued from Page 276

and flammable liquid fires. Recharging can be accomplished on-the-spot. A holder is available for trucks and busses.

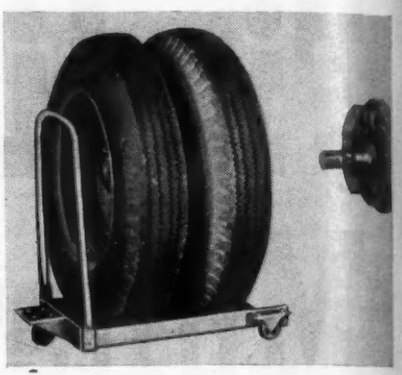
P187. Air System Cleanout

A fully automatic contamination sump cleanout valve has been marketed by Wilkerson Corp., Denver, Colo. The valve blasts out dirt or water collected in air-brake systems as the unit is in operation.

Here's how it works. The valve is attached to the air tank and by a circulation process when the system is not in use, precipitates, scale, dirt, etc., is collected in the bottom of a sump chamber located near the cleaner's exhaust valve. When the system is operated, the decrease in pressure raises the exhaust valve, and the contamination is blown out. As the tank pressure returns to normal, the valve closes. A shut-off valve at the top of the unit closes out air from the tank.

P188. Dual Wheel Dolly

Dual truck wheels can be removed and replaced quickly and easily with the new ATI dual wheel dolly. The dolly handles tire sizes from 6.50 to 11. It weighs 48 lb, is 33 in. long, 21½ in. wide, and the handle is 29 in. from



floor. Swivel caster mounting provides perfect alignment. By using two dollies, both brakes can be served at the same time. There is no strain, no lifting, no greased floor, no adjusting. The dolly is made by Alexander-Tagg Industries, Inc., Hatboro, Pa.

Late Product Flashes

SPINNER WRENCHES by Bonney Forge & Tool Works, Allentown, Pa., with composition handles, fluted for a firm grip.

KRYLON-IZING is a spraying process, plastic, which waterproofs trucks and highway tractor ignition systems. Information available from Krylon Inc., Philadelphia.

ADJUSTABLE WRENCHES of new design are being made by Owatonna Tool Co. of Owatonna, Minn., with tapered jaws, permitting access to close places.

CARBURETOR THROAT, made by Manifold Hot Spot Corp., Oshkosh, Wis., is installed in bottom of vaporing chamber of intake manifold. The maker promises better starting and less carbon formation through correct vaporization.

WINDOW CHANNEL SHIM has just been announced by Champ-Items, Inc., 6191 Maple Ave., St. Louis, Mo.

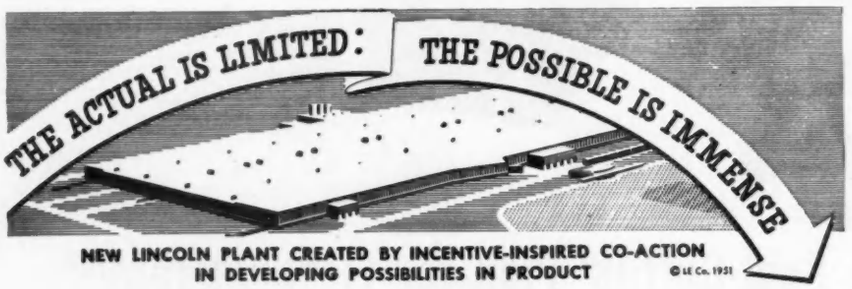
AIR-SPEED SAW AND FILE, a reciprocating air-operated saw and file tool, has been improved in the 1950 and 1951 models now leaving the factory at 1500 West Slauson Ave., Los Angeles, Calif.

TIER-MASTER, is the name of a new fork lift truck with telescoping uprights low enough to enter a truck van body, yet will extend to lift three pallets high. Mobilift Corp., Portland, Ore., are the manufacturers.

ANTI-RUST PAINT, produced by Speco, Inc., Cleveland, have three new paints in regular line which have additional penetrating and sealing qualities, the manufacturer states, and come in clear, black, and aluminum.

END

Please Resume Reading Page 67

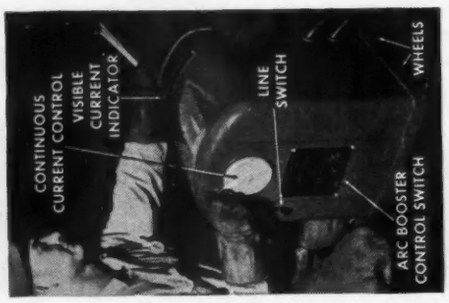


NEW LINCOLN PLANT CREATED BY INCENTIVE-INSPIRED CO-ACTION IN DEVELOPING POSSIBILITIES IN PRODUCT © LE Co. 1951

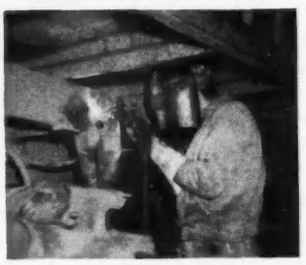
A GREAT TIME SAVER
to spread man hours farther

- Faster, easier welding helps your repairmen get more done in less time . . . at lower cost to you.
- Arc starts automatically . . . there's no more electrode sticking because of Lincoln's famous "Arc-Booster."
- Quality welds in steel and cast iron are assured by "Fleetwelder's" instant penetration at the start of each weld.
- Simple to install . . . operates on single phase power . . . moves about the shop on wheels.

Versatile Lincoln "Fleetwelder" 200 AC. Broad current range handles 3/16" to 1/4" electrodes. Low in price . . . this industrial type AC welder sells for less than other comparable arc welders.

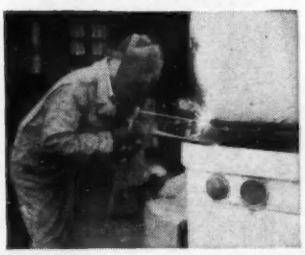


FOR FAST, HEAVY REPAIRS



Reinforces Rear Shackle. After loose rivets are removed, the bracket is bolted into position and fillet welded to frame for solid, permanent connection.

OR LIGHT BODY WORK



Repairs Leak in milk tank trailer by welding with Lincoln "Fleetweld 7." Fast, simple work for the "Fleetwelder" 200 AC.

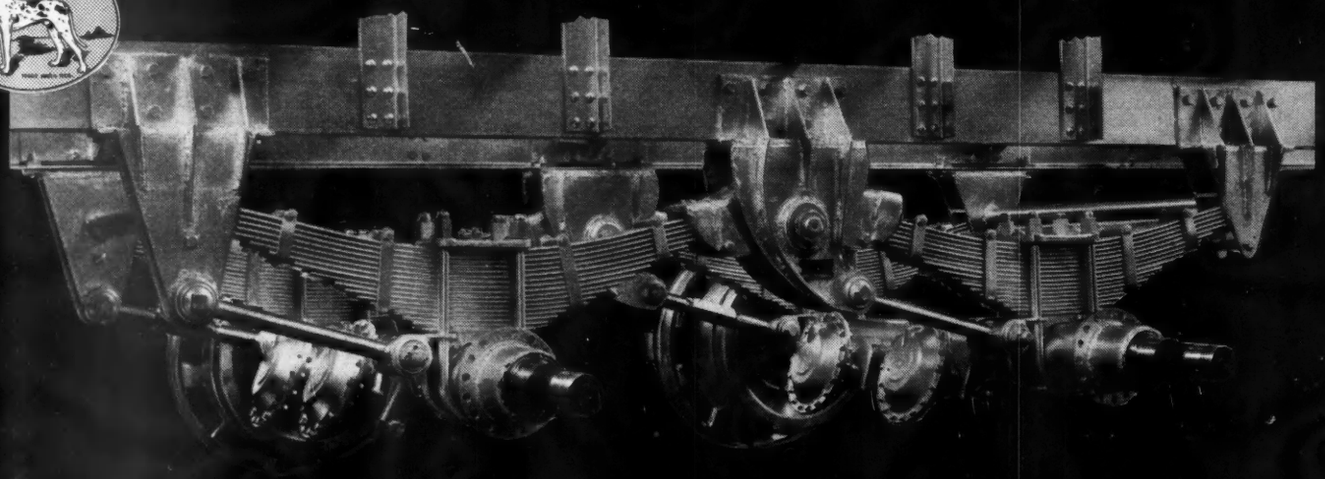
SEE HOW "FLEETWELDER" KEEPS EQUIPMENT ON MOVE

Full details on "Fleetwelder" 200 AC are available in free bulletin 1301. Write on your letterhead to Dept. 322,

THE LINCOLN ELECTRIC COMPANY
CLEVELAND 1, OHIO

tandem trouble?

GET A GREAT DANE



Your trailers are only as good as the tandem assemblies that carry them. Whether your greatest concern is tandem maintenance, replacement, or new trailers; the improved GREAT DANE TANDEM again proves the superiority of Great Dane engineering and construction.

Simple rugged design; extremely long "Glide-Ride" springs for longer trailer life and greater load protection; a positive rocker assembly which eliminates sidesway and assures correct load distribution . . . all are combined in the Great Dane Tandem, which showed no noticeable wear after 100,000 miles of road-testing.

MAINTENANCE? A COMPLETE KIT FOR OVERHAUL, INCLUDING ALL BUSHINGS, LISTS AT ONLY $30!

The expense of only one overhaul of your present tandem may cost you more than replacement with this improved Great Dane! Write for literature today!

GREAT DANE *Trailers*

THE STEEL PRODUCTS CO., INC.

SAVANNAH, GEORGIA

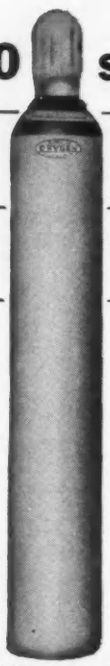
PMTA HITS THE FARMERS

Pennsylvania Motor Truck Assn. sponsored this handsome booth at the 35th Annual State Farm Show to bring the story of highway transportation to the farmers. While the display itself packed a powerful wallop, the real crowd-puller was a series of visual acuity tests sponsored jointly by PMTA and the Central Pennsylvania Optometric Society

AIRCO small cylinders . . .

for 25 years leasing

at about $2.00 per year



Here is the ideal cylinder team to meet every day welding and cutting operations — a 122 ft. oxygen cylinder teamed with a 60 ft. acetylene cylinder. This combination gives you

these 4 big advantages

1. **Better Gas Ratio** — meets the common demand for 2 to 1 oxygen-acetylene ratio.
2. **Easier Handling** — small, lightweight, easy to move around the shop, or on your truck for field welding jobs.
3. **Greater Economy** — demurrage savings amount to $5.20 or more per year . . . ordinary wear and tear repairs, and retests are made at no charge.
4. **Always Available** — when cylinders are empty, you get new ones immediately . . . no waiting for cylinders to be filled.

Moreover, if you move, one of Airco's nation-wide network of dealers and plants will always be near for service.

Ask your local authorized Airco Dealer about the 25-year lease plan on these small gas cylinders.

AUTHORIZED AIRCO DEALER

AIR REDUCTION

AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Offices in Principal Cities

LEGISLATIVE NOTES

ARKANSAS: A new law requires direction signals on vehicles fitting certain dimensions. If your truck measures more than 24 in. from the left outside limit of the steering wheel to the left outside limit of the body or load, you must have signals. Also, if your truck measures more than 14 ft from the top point of the steering wheel to the rear limit of the body or load—you must have signals. The law exempts farm vehicles and luggage trailers drawn by automobiles.

INDIANA: Single-piece loads more than 10 ft in length must be fastened by three chains or cables instead of two.

MAINE: Vehicle registrations now list the type of motor fuel used.

S. DAKOTA: Vehicles may be stopped, weighed, and their excess of legal cargo load removed by peace officers.

MARYLAND: The legislature has received a proposal to limit gross weight not to exceed five hundred times the net brake horsepower of its engine.

NEBRASKA: A law to stiffen fines and penalties for persons convicted of operating or being in actual physical control of any motor vehicle while under the influence of intoxicating liquor has been approved.

WYOMING, in a recent enactment, has set a fee of $2.50 for each vehicle being towed for ultimate sale or exchange. There are later exemptions enacted for new and used car dealers operating solely within the state.

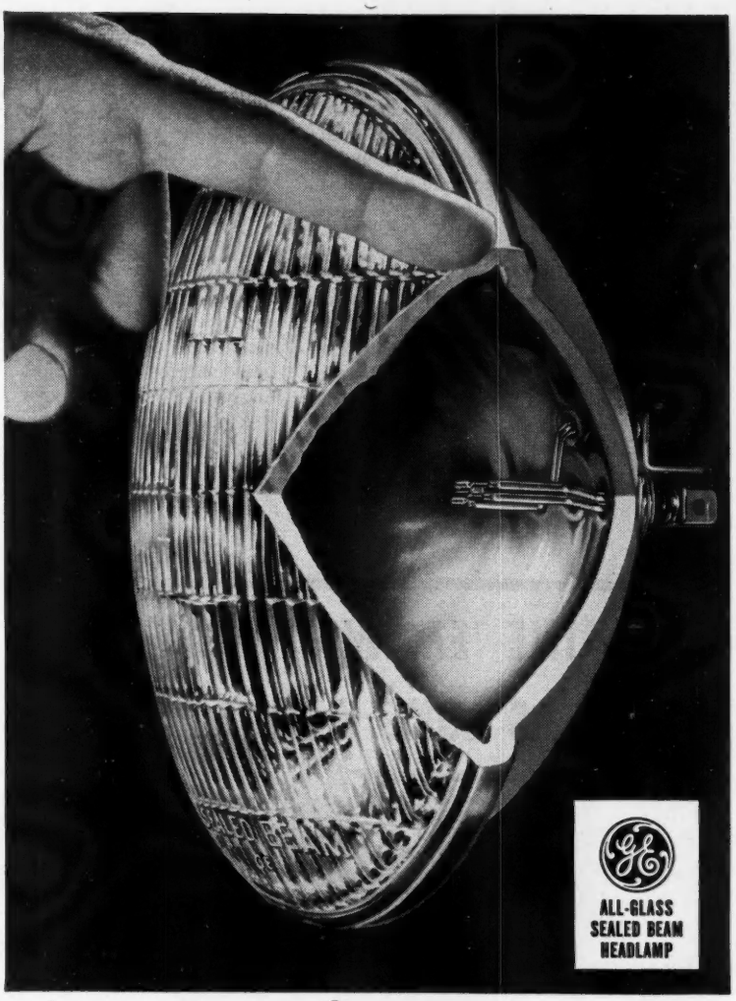
N. DAKOTA: A clarification bill recently approved requires all vehicle axles to be equipped with adequate brakes and all tandems of such construction that vertical movement of three inches of either axle will not alter the load on the other axle over 1500 lb. The same bill increases the length limit for construction contractors.

IDAHO: The penalty for a conviction of reckless driving is now a license suspension for 30 days for the first conviction, 90 days for the second, one year for the third.

MINNESOTA: Some relaxation of regulations concerning motor vehicles carrying forest products is noted. It is no longer necessary to cover such loads with woven wire, and during the period from January 1 to March 7 each year maximum weight limits have been raised by 20 per cent over specified routes.

BECAUSE THEY ARE ALL ONE PIECE G-E "All-Glass" HEADLAMPS

DO NOT GROW DIM!



DIRT AND MOISTURE CAN'T GET IN TO REDUCE LIGHT OUTPUT

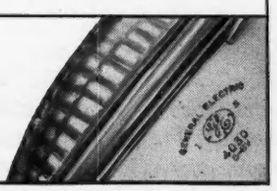
THE cutaway view above reveals one big reason why General Electric "All-Glass" headlamps do not grow dim. Lens and reflector are *one piece,* with filaments firmly anchored in the reflector, making the whole lamp one unit! Because it's a single unit, dirt and moisture can't get in to dull the reflector.

"All-Glass" headlamps give more light from the start. And they continue to give more. Tests show they average 99% as much light at end of life as when new. Result: safer, easier and more comfortable night driving.

Here's how to play safe when you buy sealed beam headlamps for your fleet

1. FEEL THE SEAL
There is no seam where glass reflector and glass lens are fused into one piece. Dirt and moisture can't get in.

2. SEE THE G-E
It's on the back of the headlamp near the top. It's your assurance that your headlamps WILL NOT GROW DIM.



GENERAL ELECTRIC

FLEET NOTES

CHICAGO: G. E. (Al) Fernstrom of the Fernstrom Transfer & Storage Co. died early in March. He was 41. Mr. Fernstrom was known widely in the moving industry and was a member of the board of United Van Lines, Inc.

TORONTO, ONT.: Highway operators are taking considerable business away from the railroads in this area, said to be a result of the Canadian rail strike last summer. Present legal machinery is in process for granting of licenses to operate between provinces.

NEW BRUNSWICK, N. J.: Anthony J. Scherger, former traffic manager for Block Drug Co., Jersey City, N. J., has joined the sales staff of the New York and New Brunswick Auto Express Co.

KANSAS CITY, MO.: Bruce Motor Freight Co. has a new terminal located at 407 Missouri Ave., Kansas City.

WASHINGTON: Indications so far this year are that shipments of truck trailers by manufacturers will exceed 1941. This is based on reports of the U. S. Bureau of Census.

ST. LOUIS: William E. Lee, president of Household Goods Carriers Bureau and president and general manager of United Van Lines, passed away early in March. He was 54.

AUGUSTA, GA.: One of the oldest railway mail routes in the world, between Charleston and Augusta, Ga., ends its 119 years of service and is being replaced by a new highway postal unit, one of six truck units operating in the area.

PHILADELPHIA: Security regulations imposed by the U. S. Coast Guard require that persons desiring entrance to Piers Nos. 76, 96, 98 and 100 must obtain a Port Security Card at the Customs House, 2nd and Chestnut Sts.

TOLEDO, OHIO: Authority has been granted to Dundee Truck Line, Inc., to purchase operating rights and property of Milan Truck Line, Inc., Milan, Mich.

BUFFALO, N. Y.: The Niagara Frontier Industrial Traffic League has a new president, Victor A. Raham, executive of the Niacet Chemical Division, Niagara Falls, N. Y.

OAKLAND, CALIF.: Pacific Intermountain Express reports a healthy financial condition and an excellent record of business in its annual report for 1950.

PHILADELPHIA: F. X. McDermott is now the president of the Philadelphia chapter of the Pennsylvania Motor Truck Assn.

PERTH AMBOY, N. J.: Apex Express, Inc., has a new traffic manager, Herbert J. Mayer. Mr. Mayer is also treasurer of the Newark Chapter of Delta Nu Alpha, the transportation fraternity.

DETROIT: W. Ford Johnson Cartage Co. recently honored 27 of its drivers for safety records of accident-free driving up to 10 years.

(TURN TO PAGE 184, PLEASE)

RE-LINE 'EM WITH ANYTHING . . .
JUST AS LONG AS IT'S *Fused Fabric*

And Fused Fabric means just one thing . . . RUSCO *Fused Fabric!* More and more car owners are demanding this *different* lining . . . the *only* brake lining engineered for today's more powerful automobiles. You'll find it profitable business to stock and recommend *Fused Fabric!*

RUSCO
Fused Fabric

"Leader of the Industry"

THE RUSSELL MANUFACTURING COMPANY, MIDDLETOWN, CONN.

"Will you step to the rear of the bus, or shall we take a little trip up Vesey Street?"

Costs got you cornered?

BROTHER, if operating costs have you backed into a corner these days, why not try selecting lubricants on the basis of long-run economy and performance.

You'll save. Yes, because—Quaker State HD Oil fights excessive wear . . . cuts maintenance costs . . . pares the fat off repair bills.

Quaker State HD Oil is refined with the most modern processing equipment. Made from 100% pure Pennsylvania grade crude oil, it is compounded with chemical detergents of highest quality.

No wonder shop-time is cut . . . and on-the-job time of every fleet unit is increased. This Quaker State HD Oil not only fights against friction wear and heat damage—but it helps to prevent the formation of sludge, gum and varnish—and actually cleans as it lubricates.

Start saving dollars now!

QUAKER STATE HD OIL

AND SUPERFINE LUBRICANTS

QUAKER STATE OIL REFINING CORPORATION, OIL CITY, PA.

ERIE WHEELS . . .

Erie Wheels typify the finest tradition of transport, "Safe Conduct of Cargo" . . . Great strength and dependability merge with malleable iron resiliency in Erie Wheels to "roll with the punch" when the going's rough . . . Their turbine-like spokes air-cool the tires and brake drums as speed increases . . . Day and night, Erie Wheels roll heavy cargoes over the world's highways, Safely and Surely to Destination.

You Can Specify . . .

Erie Wheels

ERIE MALLEABLE IRON COMPANY

ERIE • PA,

Fleet Notes

Continued from Page 282

RICHMOND, VA.: State Highway officials report that overloading violations in that state have declined sharply in the first two months of 1951.

KANSAS CITY, MO.: Riss & Co. has carried its court battle over certain alleged grievances against the ICC to the United States Supreme Court.

CASPER, WYO.: Salt Creek Freightways has ICC permission to purchase Johnson Motor Freight, Billings, Mont.

SAN FRANCISCO: Executives and personnel of the Western trucking industry are serving as guest lectures on transportation subjects to students in graduate business administration study at Stamford University.

SALISBURY, MD.: Driver awards for 13 of Victor Lynn Lines' 32 drivers are to be wrist watches, suitably inscribed, plus a cash bonus based on the number of years perfect driving record.

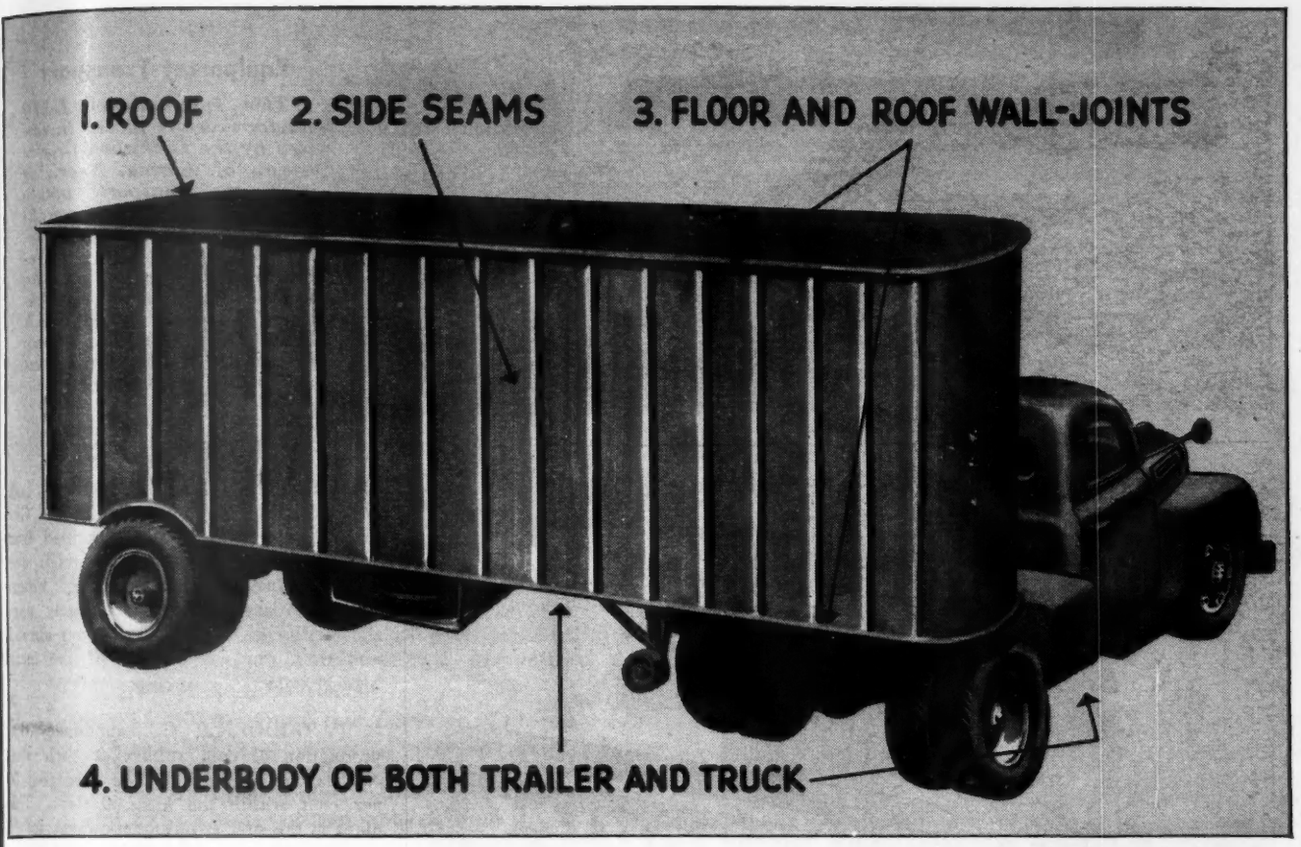
LITTLE ROCK, ARK.: The Attorney General of the state, Mr. Ike Murray has ruled that individual municipalities do not have the right to tax out-of-state businesses which send their delivery trucks into Arkansas.

DETROIT: A $125,000 expansion of the truck trailer fleet of Jeffers Transport Co., Inc., has begun with delivery of the first of four new tri-level combination auto and freight carriers. The company hauls principally Chrysler Corporation cars and trucks from Detroit to Muskegon for shipment across the lake by car ferry to Milwaukee.

LANCASTER, OHIO: Anchor Hocking Glass Co. has announced the death of its traffic manager, Irvine L. Dunnington in Sarasota, Fla.

Narrow Delivery Model

Vanette has introduced a new, narrower model called the Vanette Junior, engineered for the Ford F-3 parcel delivery chassis. It is built on two wheelbases, 104 in. and 122 in., with load areas of 242 and 320 cu. ft. Literature is available from the Vanette Division of Universal Sales, Inc., Delaware, Ohio



More money-saving uses for "UNDERSEAL"! BRAND

HERE'S HOW one big fleet operator uses "UNDERSEAL" Rubberized Coating to seal his metal trailers against dust and moisture—eliminating damage claims on such goods as cloth and cigarettes.

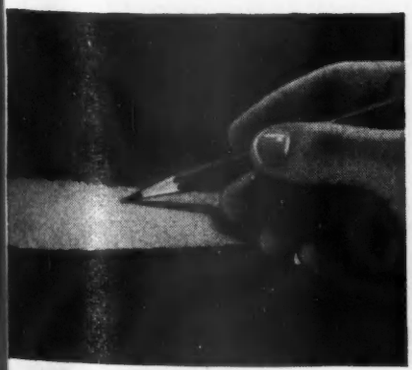
1. ROOF—"Underseal" is sprayed either over the entire surface or just along the seams. Either method seals the roof effectively—spraying the entire roof insulates against the hot summer sun.

2. SIDE SEAMS—atomization is cut off, and the spray gun is used to caulk the side seams by extruding "UNDERSEAL" into place. Water can't seep in. Trailer can't rust and stain.

3. FLOOR AND ROOF WALL-JOINTS—again, "UNDERSEAL" is used as caulking, then smoothed with a putty knife or trowel. May be painted to match the trailer.

4. AND UNDERNEATH, OF COURSE — Illustrations below prove "UNDERSEAL" gives really long lasting protection against corrosive road salts and moisture.

Have one of our salesmen show you how these "UNDERSEAL" *extras* can cut your operating costs. Because it's *rubberized*, it expands and contracts with the metal—doesn't chip away in cold weather, doesn't drip off in hot weather. Write Dept. CC-41 for full information.

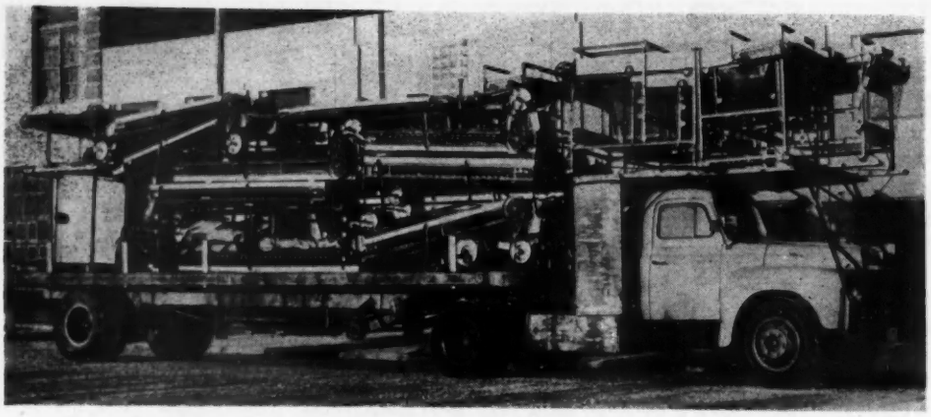


SUBSTITUTE COATING! Unless you insist on "Underseal" Rubberized Coating, you risk getting one of the many thin, brittle, inferior undercoatings like this. After only 9 passes with a sand-blast this material—often costing as much as "Underseal"—is completely worn away! Metal is fully exposed!

"UNDERSEAL" RUBBERIZED COATING protects even after 30 passes with the sand-blast gun—under exactly the same conditions! Thick, tough "Underseal"—the brown colored undercoating—gives a springy hide that stays on longer, gives your units extra protection against flying rocks, road salts, driving noises.

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives, "3M" Adhesives.

General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y.



Equipment Transport

This International L-170 tractor recently placed in service by the Lockwood Grader Corp., of Gering, Nebr., is used to transport potato grading equipment throughout South Dakota, Colorado, Wyoming, and western Nebraska. Operation of the L-170 supplements Lockwood's delivery fleet which hauls the grading machinery to potato fields throughout the United States.

Stop Sign..

FOR CRACKED BLOCK REPAIRS

VERSNICK
BLOCK REPAIR PROCESS

● This sign identifies the automotive machine shop in your area that uses the Versnick Process to repair cracked blocks and heads.

Even the most difficult cracked block jobs can be repaired permanently and economically with the Versnick Process—using Versnick taper plugs, cylinder and valve port sleeves and MET-L-SEAL.

Because Versnick taper plugs are made of motor-block iron, they expand and contract at the same rate as the block—actually become part of it. You can't even see the repair!

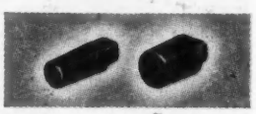
Look for the Versnick Block Repair Process sign—your headquarters for cracked block repairs.

For quick, permanent sealing of minor cracks, use Versnick MET-L-SEAL, the new ionized iron compound. Just circulate it through the cooling system.

For complete information write or phone *Versnick Manufacturing Company, 4700 East Nevada, Detroit 34, Michigan.*

MET-L-SEAL for minor cracks

Now ionized iron compound that seals minor cracks permanently!



TAPER PLUGS for major cracks

You can't even see the repair with the Versnick Process!

DRY CYLINDER SLEEVES for all popular engines. Exact length.

VALVE-PORT SLEEVES—New! Developed and perfected by Versnick.

INDUSTRIAL NOTES

CUMMINS ENGINE CO., Columbus, Ind., is importing steel from Belgium and Germany to supplement steel supplied from American mills. The use of foreign steel by Cummins is a new venture. Future foreign orders will depend largely upon the quality of steel received from abroad, and the future availability of the metal here at home.

B. F. GOODRICH CO. announces that production of cold rubber at their Port Neches Texas plant will be increased 50 per cent within the next 60 days. This plant is the first government-owned, industry-operated synthetic rubber plant to receive authorization to increase the nation's cold rubber supply. Cold rubber is a process of manufacturing that provides a product that has greater resistance to abrasion than standard American rubber or crude rubber. It is used chiefly in passenger car tire treads.

GENERAL MOTORS announced recently that its total government orders now exceed three billion dollars. This is from a part of the GM annual report. The report also stated that much of the activity on government orders so far has been limited to tooling-up process. The above figure does not represent the total expected by GM in its national defense efforts, company officials said.

CHANGE OF ADDRESS has been announced by the headquarters of the New Jersey Motor Truck Association. It is now located at 10 Hill St., Newark 2, N. J.

ACF BRILL MOTOR CO. is starting delivery of fifty new propane-powered buses to the Chicago Transit Authority to supplement units already in service.

CHRYSLER CORP. announces in their annual report that an all time high has been reached in sales of Plymouth, Dodge, De Soto, and Chrysler passenger cars and Dodge trucks. Unit sales for 1950 were 1,313,239, and the dollar sale of these vehicles together with all other products amounted to $2,190,693,425.

ARCOS CORP. has a new west coast office and warehouse at 420 S. Western Ave., Los Angeles, Calif.

(TURN TO PAGE 288, PLEASE)

33 YEARS OF "KNOW-HOW"

As early as 1918 Perfection Bodies and Hoists were being designed for the future haulage needs of such jobs as the construction of the Chrysler Building.

In 1930, when the Chrysler Building was being completed, Perfection Hoists and Bodies were already recognized as an outstanding leader in advance design and rugged construction.

Photo shows a PERFECTION No. 354 Dump Body of 20 yd. capacity on a 216" x 95" platform and 47" sides, with Iso-Draulic Roll-A-Lift.

PERFECTION

Builds for Tomorrow

Every year trucking demands require increased capacities. Every year Perfection looks ahead – devises more rugged designs – builds to greater precision, to carry these greater loads, and to give you year after year of the most profitable performance possible.

THE PERFECTION STEEL BODY CO.
Galion, Ohio, U.S.A.

PERFECTION
STAKE and DUMP BODIES
HYDRAULIC HOISTS

FOR ANY TRUCK
STANDARD or SPECIAL UNITS
IN ALL SIZES • FOR ANY USE

A Home In A Truck

Living accommodations for two, with hot and cold running water, have been built into the Metro body of John Danison's new LM-120 International truck. Mr. and Mrs. Danison are shown with Harvey Washer (right), of the Orange State Motor Co., St. Petersburg, Fla. Having recently completed an extended tour throughout the United States the Danisons found their home in a truck to be ideal living quarters. The vehicle has a 115-in. wb. and is powered by a 100-hp. engine. All the work of outfitting the specially equipped body was done personally by Danison

THE

BIEDERMAN

TRUCK

An All-Star Truck
Constructed of All-Star Units
Doing an All-Star Job Since 1920

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealership solicited.

WRITE, WIRE or PHONE

BIEDERMAN MOTORS CORPORATION
CINCINNATI 14, OHIO

Industrial Notes

(Continued from Page 286)

SAFE-T-WELD CO. has moved its bonded brake shoe processing operation to 3225 Locust Blvd., St. Louis 3, Mo., after purchasing the process from Louis Rose Co., Detroit. The new owner is A. H. Leu of St. Louis.

B. F. GOODRICH reports a substantial increase in sales (40.1%) in a preliminary statement of its 1950 business. This represents the highest volume of business in the firm's 80-year history.

SPECO, INC., has opened a new district sales office at 30 Church St., New York. Speco, Inc., manufactures a complete line of paints, industrial chemicals, and maintenance products.

TRAILMOBILE COMPANY of Cincinnati has received a letter of intent from the government, to order heavy duty military type truck-trailers for the Army Engineers. The contract is expected to be in excess of two million dollars.

STEWART WARNER CORP. has declared a 35¢ (per share) dividend on its $5 par value common stock payable April 7 to stock of record as of March 16.

TIMKEN-DETROIT AXLE CO. has started construction of a plant on the outskirts of Newark, Ohio, for the manufacture of axles and transfer cases for military trucks. This addition to Timken-Detroit's plant capacity is required to supplement present facilities to meet the increased needs of the Ordnance for these all-wheel drive trucks. This will make the ninth plant for Timken-Detroit, other plants being located in Detroit and Jackson, Michigan; Oshkosh, Wisconsin; Utica, New York; New Castle, Pennsylvania, and Kenton and Ashtabula, Ohio.

WHITE MOTOR CO., Cleveland has a new factory branch building located on S. Clairborne Ave. at Calliope St., New Orleans, La. The branch includes a machine shop, garage facilities, a sales room, and a parts and accessories department.

GENERAL MOTORS CORP., will build a special proving ground for testing all types of military vehicles near Milford, Mich., location of of the present proving grounds for GM vehicles.

STUDEBAKER CORP., in its annual report shows an increase in the number of units produced, but a slight decrease in net profits. This is attributed by company officials to be due to higher costs and taxes.

WHITE MOTOR CO. shows a similar condition with more units produced and less net profit. White reports 14,856 trucks and buses for 1950, a 40 per cent increase over the 10,419 sold in 1941. In addition, the unfilled orders at White as of March 1 were the greatest in the history of the company, an official said.

FOR BETTER PERFORMANCE ...BETTER MILEAGE

get Cooler-running ALL-METAL VELVETOUCH

Velvetouch clutch plates run cooler... because they're all-metal...with facings made from powdered metals, formed under tremenduous pressures and fused with solid steel backings.

This patented all-metal construction carries heat away from the friction surfaces, guards against costly heat checks and warpage.

In addition, Velvetouch can't rot in oil or "burn" like conventional materials...because no asbestos, no organic binders of any kind are used.

For extra savings... extra service ...extra protection against excessive maintenance expense... equip your trucks with Velvetouch all-metal clutch plates now.

Send For Literature Today

THE S. K. WELLMAN CO. WAREHOUSING CENTERS

ATLANTA—119 14th Street, N.E. Atlanta 5, Georgia

CHICAGO—2800 South Parkway, Chicago 16, Illinois

CLEVELAND—1362 East 51st St., Cleveland 3, Ohio

DALLAS—3407 Main Street, Dallas 1, Texas

LOS ANGELES—1110 S. Hope Street, Los Angeles 15, Calif.

PHILADELPHIA—97 E. Montana Street, Philadelphia 19, Pa.

PORTLAND—636 N.W. 16th Ave., Portland 9, Oregon

SAN FRANCISCO—424 Bryant Street, San Francisco, 7 Calif.

TORONTO, ONTARIO
The S. K. Wellman Co. of Canada, Ltd., 2830 Dufferin St.

EXPORT DEPARTMENT—8 So. Michigan Ave. Chicago 3, Ill., U. S. A.

WASHINGTON OFFICE—1101 Vermont Ave., N. W., Washington 5, D. C.

Velvetouch over 25 years of service 1924-1951

THE S. K. WELLMAN CO • 1374 E. 51st ST • CLEVELAND 3, OHIO

RINGSBY IS SWITCHING

"11 years of hauling bigger loads, longer, at lower cost, proves the value of making Fruehauf Stainless Steel Trailers a permanent part of our plant!" J. W. RINGSBY, President Ringsby Truck Lines, Inc.

J. W. RINGSBY
President

"Stainless Steel sold itself from the start. Our first units were *single-axle*, placed in service in 1940. Their excellent service record after 6 years of steady operation proved to us the value of adding Stainless to our fleet of larger-capacity Trailers. Careful records were kept of our first three Gravity-Tandem units, purchased in 1945. After 350,000 miles of operation, they were still practically *new* in condition.

"During the war, we were caught with many other makes of Trailers. Before war's end we were faced with enormous repair bills. Had our equipment been Stainless Steel, *we would have saved thousands of dollars lost in costly repair work.*

"The incredible strength of Stainless in relationship to its amazing low weight is a major asset in handling the imposing loads in the current defense effort. We can haul more tonnage longer and at lower cost than with other Trailers. State limitations are such that only the lightest and strongest of equipment can net a profitable return in maintaining fast, efficient schedules over the vast mileages involved in our operation.

"Our company has pioneered the Trailer interchange system throughout the United States; and we feel that the Fruehauf Trailer has been designed to lend itself with more flexibility to Trailer interchange and standardization."

Restrictions in Interstate Hauling are explained to interested youth by Bill Ringsby—part of Ringsby's continuing program of getting the problems of Motor Transport into the homes of the people it serves.

"78,000 Miles! And these tires aren't half worn!" F. E. Day uses cigarettes to show Boss Bill Ringsby remaining tread on No. 671—a 35' Fruehauf Gravity-Tandem—after 78,000 miles of service. Fruehauf's tire-saving Gravity-Tandems are giving users up to 4 times normal tire life!

WORLD'S STRONGEST LIGHTWEIGHT TRAILER!

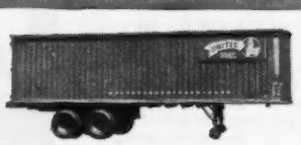
A 100% Load-Carrying Beam built of the world's strongest lightweight material — rust-resistant, corrosion-resistant Stainless Steel. Its Tiger-tough strength accounts for the fact that No Stainless Has Ever Been Reported Worn Out.

"Better cargo protection and the road-cushioning ride provided in Stainless Steel is the reason our freight is arriving at its destination the country over in much better condition," reports F. E. Day, Supt. of Operations.

FRUEHAUF Trailers

"ENGINEERED TRANSPORTATION"

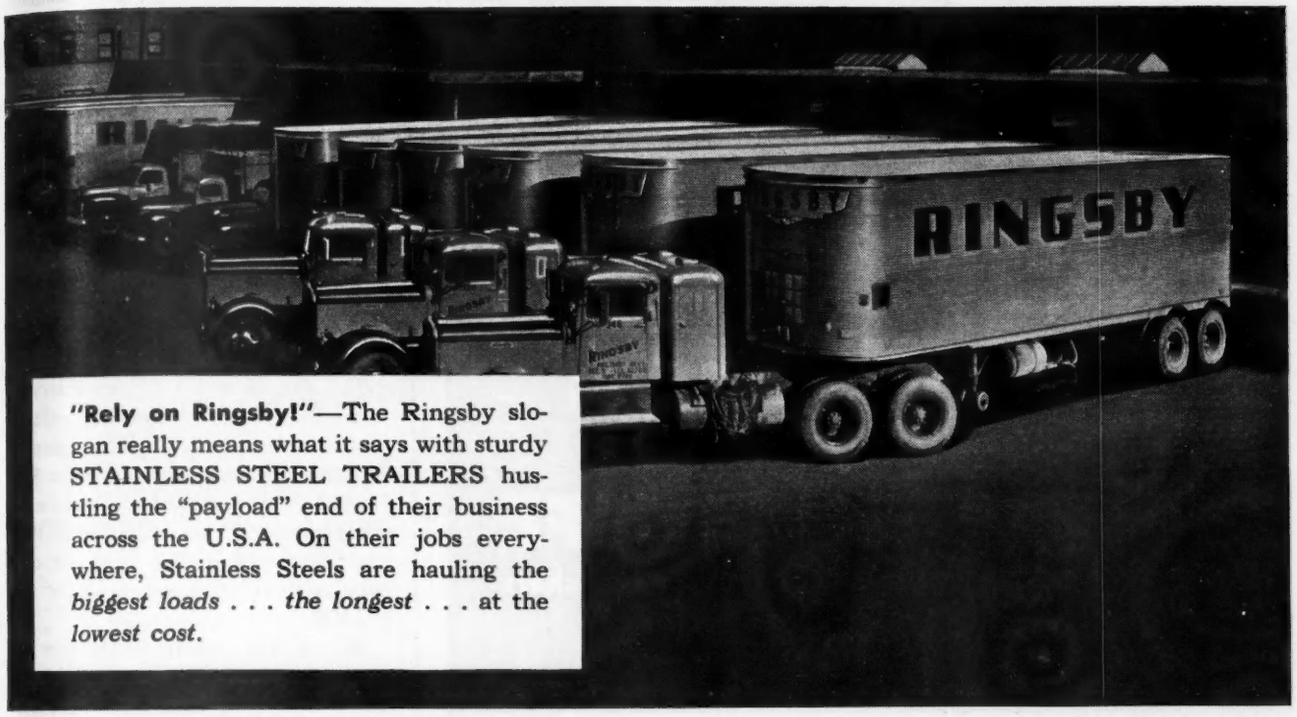
for every hauling job . . .



CORRUGATED

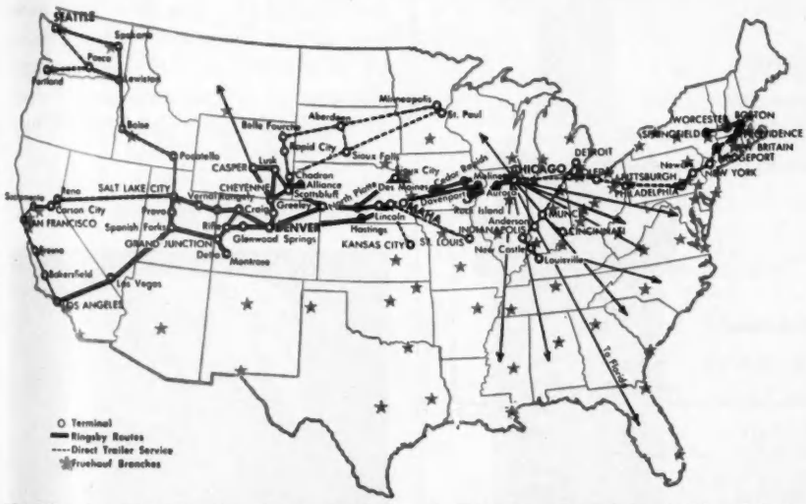
TANK-TRAILERS

TO 100% STAINLESS STEEL!



"Rely on Ringsby!"—The Ringsby slogan really means what it says with sturdy STAINLESS STEEL TRAILERS hustling the "payload" end of their business across the U.S.A. On their jobs everywhere, Stainless Steels are hauling the *biggest loads . . . the longest . . .* at the *lowest cost.*

FRUEHAUF SERVICE COVERS RINGSBY ROUTE!

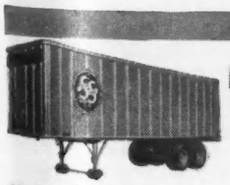


The Ringsby Route is the short, direct route across the U.S.A. Charted above is the Fruehauf Branch Service protection offered Ringsby and connecting lines en route to all points in the country. Denver is the location of the Ringsby home offices and central terminal. Ringsby started in 1933, with 1 straight truck driven by J. W. Ringsby. Today, Ringsby's fleet count numbers 225 . . . with 155 new Stainless Steel Trailers scheduled for immediate delivery.

"Stainless Stands Up," reports Maintenance Supervisor T. H. Kissell. "No. 387 is typical. Other than preventative maintenance and nominal repair costs due to damage, it hasn't cost us a penny in 500,000 miles of operation."

"Fruehaufs Are Easier on Driver," reports Ringsby Driver-of-the-month Maurice D. Walker. "They *lay* into the curves and *hug* the road . . . *following* instead of leading. They're safer on ice and snow."

SEE YOUR FRUEHAUF MAN TODAY



ALUMINUM (Corrugated Type)

AEROVAN (Hi-Tensile Steel)

PLATFORMS

Fruehauf Trailer Company,
10953 Harper Ave., Detroit 32, Mich.
Please send information on_____
(indicate type of unit)
Name_____
Address_____
City_____ State_____

Waukesha Diesel Adds New Model

The Waukesha Motor Co. of Waukesha, Wis., has introduced a 4½ x 5 engine of 425 cu in. displacement rated at 135 hp at 2800 rpm. It is a 6 cyl, overhead-valve model. The crankcase is an alloy casting with outside ribs at the base for stiffness. Seven bearing bridges are tied into the side walls with large-radius fillets, and the thick upper and lower decks make the structure distortion-free, and provide solid support for the renewable wet type cylinder sleeves.

The spherical combustion chamber with its removable two-piece main chamber and twin swirl cups in the piston crown gives a control to the turbulence rate of the air charge during compression. This increases the rate of combustion as the engine speeds up and slows the rate down as the engine speed decreases.

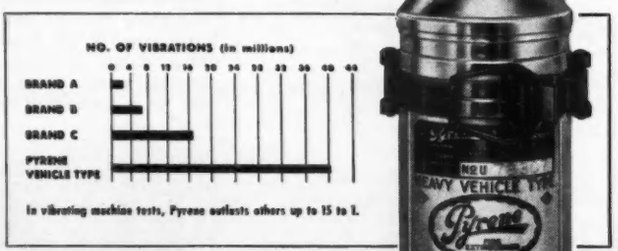
Other features are, stellite faced valves and stellite seats throughout; renewable cylinder sleeves; aluminum four-ring pistons; seven bearing, 3½ in. crankshaft; copper-lead bearings; full pressure oiling system; American-Bosch injection system with single orifice pintle nozzles and single plunger injuction pump; belt driven, front-mounted coolant pump with built-in by-pass and thermostat, and coolant jacket clean-out plates on the side of the cylinder block.

GET TWICE
—or more—
THE SERVICE LIFE
of ordinary Vaporizing Liquid Extinguishers
WITH SPECIALLY CONSTRUCTED PYRENE
VEHICLE TYPE EXTINGUISHERS

When you want facts about the effect of vibration on a fire extinguisher, you put it in a vibrating machine.

In competitive vibrating-machine tests, a Pyrene* Vehicle Type Extinguisher outlasted three other major brands by more than 2 to 1... the ratio going as high as 15 to 1. (Chart shows details.)

TWICE
THE SERVICE
MEANS
HALF
THE COST


NO. OF VIBRATIONS (in millions)
0 6 8 12 16 20 24 28 32 36 40 44
BRAND A
BRAND B
BRAND C
PYRENE VEHICLE TYPE
In vibrating machine tests, Pyrene outlasts others up to 15 to 1.

This extra life is *built into* Pyrenes. In every 1 qt. and 1½ qt. Pyrene, a special vibration dampener holds the pump mechanism firmly in place, protecting it against both vertical and horizontal vibration. And tough brass linings guard the valve housings in every spot where wear could occur. No other extinguisher offers these vital added construction safeguards.

Lower price doesn't pay when you get half the life. Buy on facts . . . buy Pyrene!

*T.M. Reg. U.S. Pat. Off.

Pyrene
REG. U.S. PAT. OFF.
FIRE EXTINGUISHERS

PYRENE MANUFACTURING COMPANY
589 Belmont Avenue Newark 8, New Jersey
Affiliated with C-O-Two Fire Equipment Co.

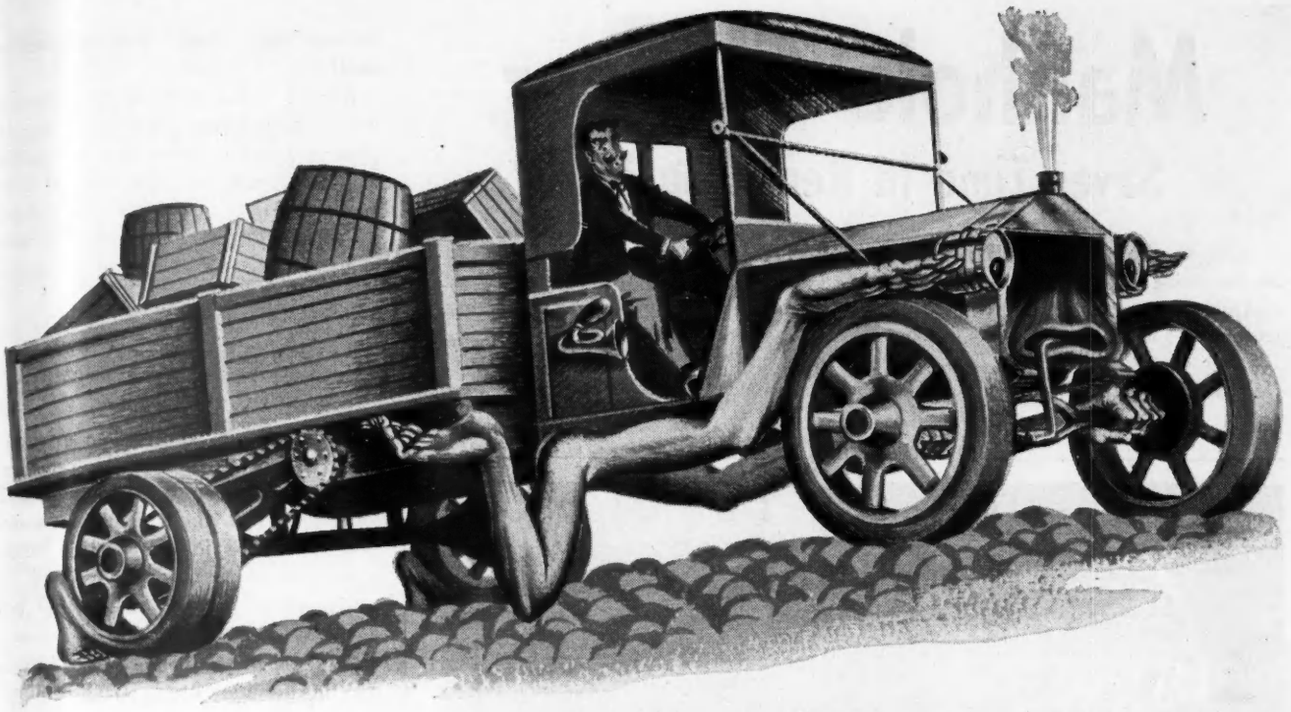
Interstate Reports Progress

The annual report of the Interstate Motor Freight System for 1950 indicates considerable progress. The company says that operating revenues were $19,719,903 which represents a gain of about three million dollars over 1941. After taxes and routine costs, the company arrived at a net profit of $1,129,490.

The activity report stated that the system had hauled more than 481 million ton-miles of intercity freight over its regular routes. Here is a noted increase also of over 100 million. A novel way of depicting figures was noted on page 5 of the report. A truck-trailer rig is pictured divided into segments representing proportional costs of operations, under the caption "How Interstate's Income Was Used."

Truck a-head

Motor truck day at the recent Chicago automobile show served as the inspiration for this original creation by John Frederics. The hat was designed around a miniature International pick-up truck, a replica of one on display at the show. It was worn by Claudia Laymon



WAY BACK WHEN...

Remember when trucks used to huff and puff along under small-sized loads, carried on hard rubber tires . . . when drivers used to wrestle the wheel from the right hand side? Way back then engineers were trying to push the payload forward . . . to lick the problem of hard-steering this move entailed.

Today the problem is solved. Saginaw's new hydraulic power steering gear allows up to twice the usual front-axle payload . . . yet steers with automobile-ease under toughest conditions. And most important—Saginaw gives you this extra payload with no increase in truck size . . . no danger of exceeding legal load limits.

Yes, now you can get more payload—more profits —with Saginaw power steering . . . tested and proved by years of experience.

Find out how Saginaw Steering can step up your payloads and profits. Ask your truck manufacturer about Saginaw power steering today.

IF IT'S EASY TO STEER—IT'S A SAGINAW GEAR

GM PRODUCTS

STEERING GEARS AND LINKAGES • PROPELLER SHAFTS • TRANSMISSION CONTROLS • TURN SIGNALS • DIESEL ENGINE PARTS • BALL BEARING SCREW AND NUT ASSEMBLIES • AUTOMOBILE JACKS

Saginaw

STEERING GEAR DIVISION

General Motors Corporation, Saginaw, Michigan

Manhole Cleaner

Saves Time In Removing Mud

John W. Channell, of Philadelphia, an inventive engineer, has brought a cleanliness (nearer to impossible than godliness) to lowly manholes, some 135,000 of them, in New York City. He's done it with what is perhaps the world's largest mobile vacuum cleaner, a self-contained, truck-mounted unit named the Mudsucker, designed to assist electric company workers who go down into the street vaults to locate a break or pull new cable through subsurface ducts from one manhole to another.

Behind Channell's accomplishment, which helps speed repair and improve electric service throughout Manhattan and the Bronx, lie such assorted items as flooded ship compartments, sardines, a Russian squawk, an amiable Irishman named McCarron and the eductor—always the eductor.

Uses Jet Principle

The eductor, or jet, is an improved device employing the syphon principle. When water is shot under pressure, along the horizontal member of a T formed by two connected pipes, a suction is created in the vertical length, a suction which can lift a liquid (in which solids may be suspended) into the driving water.

In 1948, the Russians accused Channell, in the union organ *Trud*, of pilfering the idea from the comrades when his use of the jet to unload 30 to 40 tons of sardines an hour at Maine canneries was widely publicized.

With the help of J. J. McCarron, superintendent of transportation and shops for Consolidated Telegraph & Electrical Subway Co. (which maintains those 135,000 manholes, some 1500 larger transformer vaults and connecting ducts), the jet has been employed in the cleaning of manholes of all sorts of filth which sift in through ventilation holes in the covers, often a whole day's job for two or three men with buckets and shovels, can be completed in a matter of minutes.

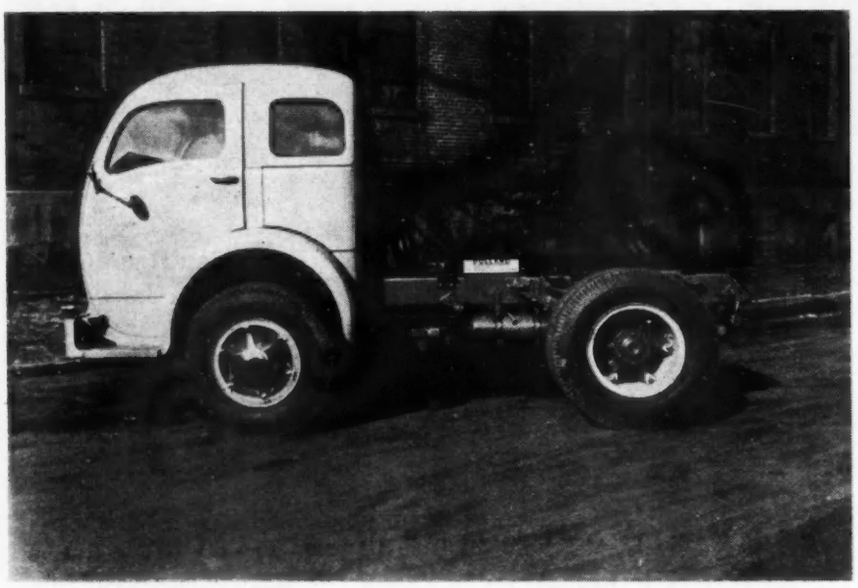
Construction Features

The manhole-cleaning unit is mounted on an Autocar chassis, a cab-over-engine model whose short wheelbase of 128 in. minimizes the difficulty of maneuvering on crowded city streets and permits the operator to park in small spaces.

There is a big steel tank body, roughly 6 ft wide, 10 ft long and 4 ft deep, with a capacity of 1831 gal or 9 cu yd.

Water is fed from the tank by gravity to a centrifugal pump powered by an industrial engine set crosswise on the chassis behind the cab. The water is discharged from the pump at 90 lb pressure per sq in. Part of the flow, about 100 gal a min, is taken off into a small hose line, an agitator, for washing down the manhole walls and turning the dirt into a thick noisome fluid.

The rest of the flow, the driving water, about 200 gal a min, is piped



Switch Your Trailers This Quicker Way!

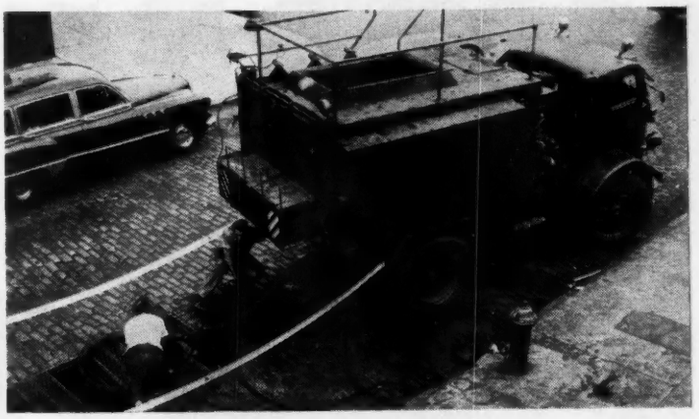
Equip your tractors with Pollard 5th Wheel Hydraulic Platforms and you'll eliminate the bottleneck of trailer movement during peak periods.
This is because the Pollard enables trailers to be moved in seconds rather than minutes, due to its fast hydraulic action and the elimination of dolly cranking.
Entirely eliminates the hazard of the trailer dropping on its nose while switching. Saves wear and tear on clutch, transmission and rear end of tractor.
Tried and proven over a period of 7 years by leading fleet owners who are continually purchasing them to modernize their terminals. Write for literature.

Patented in U. S. and Canada

C. E. POLLARD CO.
14571 Schaefer Rd., Detroit 27, Mich.

LITERATURE ON REQUEST

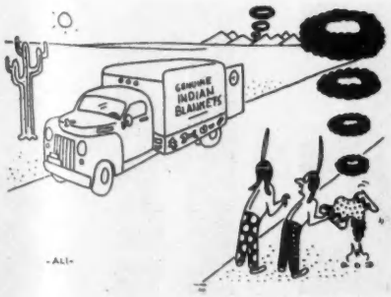
Pollard
5TH WHEEL
HYDRAULIC PLATFORM



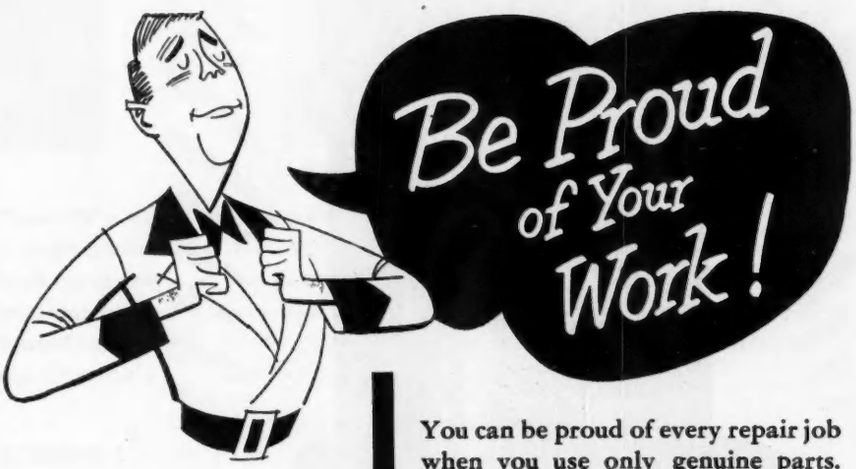
Above right: truck-mounted vacuum cleaning unit is at work sucking up accumulated dirt from sub-surface transformer vault in a New York street. The small hose supplies washdown water, which is sucked up, together with the dirt, through the big hose. The solids are settled by a series of baffles and screens in the tank body and the water is used over and over again. Above left: This "Mudsucker" unit is mounted on an Autocar chassis with a short wheelbase of 128 in. Its tank is 6 ft by 10 ft and is 4 ft deep. A 3-in. hose is dropped into the manhole

through the jet at the rear of the truck to create the suction in a 3-in. hose that is dropped into the manhole. The muck, sucked up through this hose, mixes with the driving water in the jet and is carried up into the tank. There a series of baffles and a screen settle the solids and the same water is used again through the same cycle until the tank is half filled with solids and has to be emptied.

When on the job, the Mudsucker picks up a wide variety of items—lint (in the garment district), fish fragments (in the Fulton Fish Market section), rocks (they bang against the side of the tank), lollipop sticks, wire insulation, ice-cream spoons, glass, balls, etc.



"It worked, they're sending some gas out right away."



use only
FACTORY NEW
GENUINE
BENDIX DRIVES
and
PARTS!

You can be proud of every repair job when you use only genuine parts. When it comes to servicing Bendix* Drives, be sure to use only *factory new* Bendix Drives and Parts. This means your customers will get the same dependable performance built into every original Bendix Drive—performance proven by over 85,000,000 installations. Insist on *factory new* Bendix Drives and Parts when you order from your distributor.

*REG. U.S. PAT. OFF.

HERE'S ADDED PROFIT

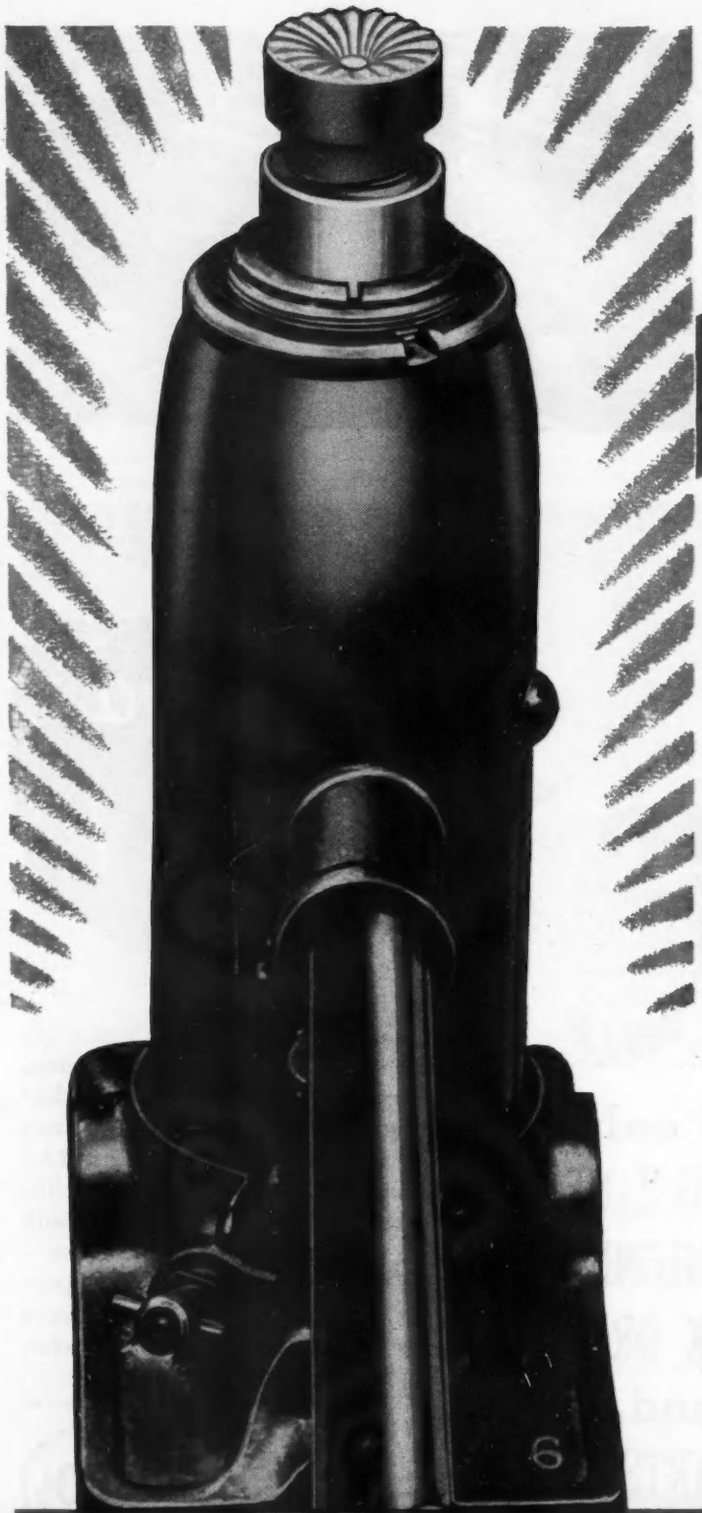
When you install a new Bendix Drive, return the used drive together with the credit exchange tag to the Bendix Drive Central Distributor—it's worth 50c to you in merchandise credit.

50¢

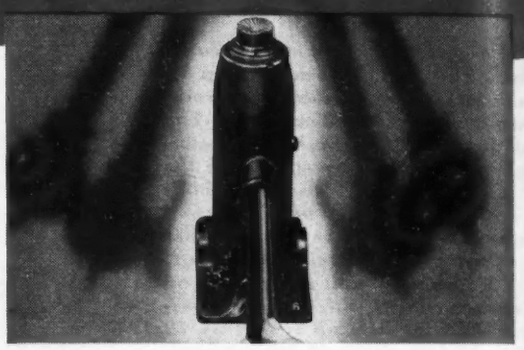
Bendix Drive

ECLIPSE MACHINE DIVISION of
ELMIRA, NEW YORK
Export Sales: Bendix International Division, 72 Fifth Ave., New York 11, New York

Bendix
AVIATION CORPORATION



EASY
TO "POSITION"



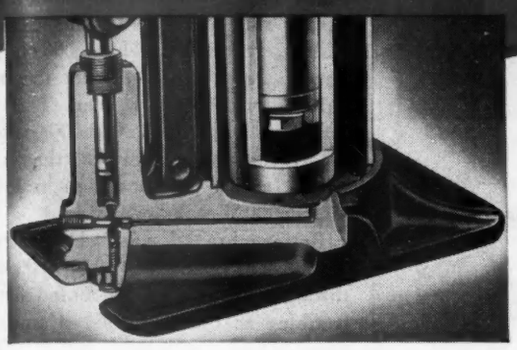
Lift a Walker "Series 900" by the handle. Immediately and automatically it assumes an upright position. That's because the strong malleable iron handle socket is located in the exact center of the jack well above the center of gravity. Walker *Pendulum Balance* assures quick, easy "positioning" —saves time, saves tempers.

6 MODELS FROM 1½ TO 20 TONS CAPACITY
ALSO 2 SUPER-POWER SHOP MODELS
AT 30 AND 50 TONS CAPACITY

WALKER LEADS IN JACKS

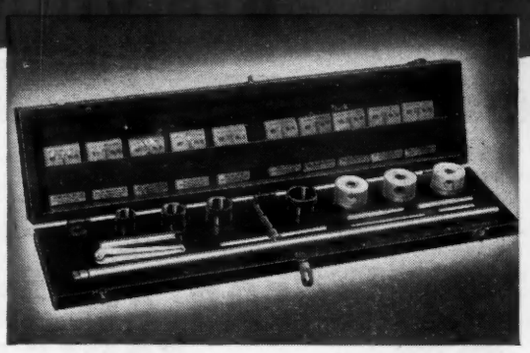
WALKER

EASY TO OPERATE



Start lifting with a Walker "Series 900." There's no lost motion, no wasted handle strokes. Smooth, dependable lifting power is delivered by the *Ryth-matic* action of the simple, yet scientific, Walker valve design. Suction and discharge valves operate with perfect teamwork, at lightning speed. Closing action is always positive and unfailing.

EASY TO MAINTAIN



Keep your jacks always ready for action. With Walker "Series 900's" and the Walker Jack Repair System, your own mechanics can maintain and repair your jacks—right in your own shop. All it takes is an inexpensive kit of special Walker tools, a small supply of genuine factory repair parts, and the easy-to-follow instructions.

● Pick up a Walker "Series 900" portable hydraulic. You know immediately you've got a jack with strength and ruggedness for years of long, hard usage. Yet, at the same time, you can't help sense its fineness and precision.

Back of every one of these new, improved tool box jacks are more than 40 years of engineering development, manufacturing "know-how" and gruelling use. Their exclusive features—*improved, refined and trouble-proofed*—are your assurance of safe, dependable performance.

All through these famous jacks you will find evidence of scientific design and production thoroughness . . . the Know-How that has earned for Walker the leadership in jacks.

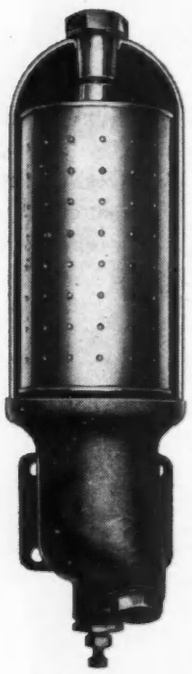
WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISCONSIN

WALKER JACKS • ELECTRIC LIFTS • EXHAUST SILENCERS • OIL FILTERS

"SERIES 900" PORTABLE HYDRAULIC JACKS

TODAY, More Than Ever, GOOD Filters Are Vital!

FOR ALL ESSENTIAL EQUIPMENT



Cut-away view shows location of filter element in filter housing.

• Prolonging engine life, saving time in unnecessary labor on engine overhauls and premature parts replacements, plus the actual savings in use and cost of oil, all can be assured with *good* oil filters.

All types of engine-powered vehicles require *good* oil filter protection—delivery cars and trucks, buses, military equipment, agricultural and construction machinery, tractors.

Performance records over the years have proved the efficiency and economy of MICHIANA Oil Filters. Such records and engineering tests have led to their widespread selection and recommendation by the most experienced operating men and engineering staffs of leading engine builders.

MICHIANA Filters are made in a range of capacities to meet all engine requirements.

MICHIANA PRODUCTS CORPORATION
Michigan City, Indiana

To insure maximum efficiency and protection, always use Michiana Replaceable Elements.

MICHIANA OIL FILTERS

Batteries Chief Cause Of Auto Failure

Breakdowns on the road last year reached an all-time high by 25 per cent in 1950, according to the American Automobile Association. Battery trouble, for the first time on record, was at the top of the list of headaches to the motorist. In all previous years, flat tires or blowouts had been the number one nuisance.

Projecting reports from 18,000 garages under contract to render emergency road service to members, the A.A.A. estimated at 44,115,000 the number of times motorists over the nation called for help last year. This compares with about 35,039,000 calls for emergency aid in 1949, the A.A.A. added, and a previous high in 1948 of 40,556,000 breakdowns.

Battery breakdowns, which were reported an estimated 10,830,000 times throughout the country, nosed out tire troubles as the driver's top woe by a clear margin of almost 800,000 calls. One authority has observed: "This may be due to the fact that there were more gadgets electrically operated on postwar cars and that older cars might have poorer electrical connections, so that batteries were heavily drained." The percentage of garage calls for most of the other types of service remained fairly constant over 1949 reports.

1950		*Pct. of Total*
Battery	10,830,000	24.55
Tire	10,054,000	22.79
Tow	4,081,000	9.25
Ignition	3,918,000	8.88
Carburetor	2,523,000	5.72
Stuck	2,210,000	5.01
Wrecker	1,862,000	4.22
Out of Gas	1,522,000	3.45
Starter	1,006,000	2.28
Lock and Key	722,000	1.75
Brakes	701,000	1.59
Gas Line	609,000	1.38
Lights	476,000	1.08
All Others	3,551,000	8.05
TOTAL	44,115,000	100.00

Propane-Powered Bus

Shown above is one of the 15 new Propane-powered Twin Coaches recently delivered to San Antonio (Texas) Transit Co. In addition to these new buses, the company is now converting 62 of its present fleet to Propane

Here are 3 new "pointers"

TO EASIER, QUICKER, MORE PROFITABLE REPAIR WORK!

The "ORIGINAL EQUIPMENT LINE"

ENGINE PARTS:

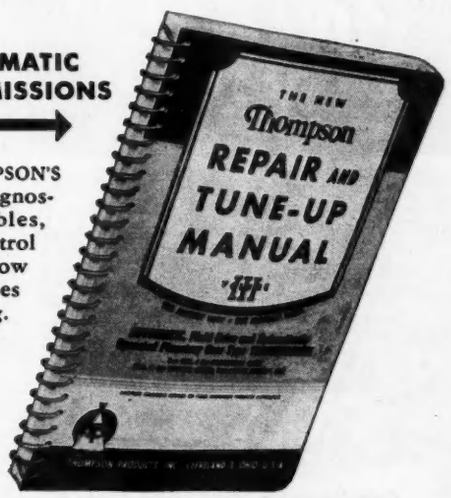
- **VALVES:** Silcrome, Aerotype, Sodium-cooled
- **VALVE SPRINGS**
- **VALVE GUIDES**
- **VALVE RETAINERS**
- **VALVE ROTOCAPS**
- **VALVE SEAT INSERTS**
- **CYLINDER SLEEVES:** Wet and Dry Types; Copper-coated
- **FUEL PUMPS**
- **PISTONS:** Chromium-Plated
- **CONNECTING RODS**
- **ENGINE BEARINGS**
- **WATER PUMPS:** Packless, Factory-type
- **WATER PUMP PARTS**

CHASSIS PARTS:

- **BOLTS:** King, Spring and Tie Rod
- **BUSHINGS:** Metal, Rubber
- **TIE RODS:** Dual-Bearing
- **DRAG LINKS**
- **INDEPENDENT FRONT WHEEL SUSPENSION PARTS**
- **SPRING SHACKLES:** Silent-U, Tryon

REPAIRMEN know how HELPFUL THOMPSON REPAIR and TUNE-UP MANUALS have been in the past. VOL. I covering passenger cars and VOL. II covering trucks, buses, tractors and Diesels familiarized them with vital engine clearances, adjustment procedures and other HARD-TO-GET Factory Data. A THIRD MANUAL has just been added to THOMPSON'S Brand *New* 1951 TECHNICAL LIBRARY.

AUTOMATIC TRANSMISSIONS



AUTOMATIC TRANSMISSIONS, THOMPSON'S NEW VOL. III. gives procedures for diagnosing automatic transmission troubles, towing instructions, linkage and control settings, external adjustments. Tells how to remove and reinstall units. Describes the operation tests after installing. Gives lubrication and special characteristics of each unit and car make.

AUTHENTIC—RELIABLE—INDISPENSABLE. Every automotive mechanic who works on modern cars needs all three of these NEW MANUALS NOW!

GLANCE READING...to save repairman's time, both text and pictures in the NEW VOL. III AUTOMATIC TRANSMISSION MANUAL have been especially developed to give GLANCE READING. Specific parts that require adjustment, repair or removal are shown in solid black with other parts printed lighter to make procedures absolutely clear.

GET ONE, TWO OR ALL THREE WITH YOUR DAY TO DAY PURCHASES FROM

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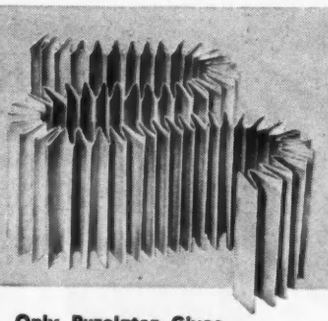
Defense Contract Awards

Late roundup of contracts awarded to manufacturers in the automotive industry shows total in billions

A RECENT survey into the purchasing of motor vehicles, parts, and equipment by Uncle Sam indicates the effect of defense mobilization is being felt in full. CCJ reports here the results of this survey. The contracts in this listing are by no means complete, but they give a representative picture of the Government's buying program.

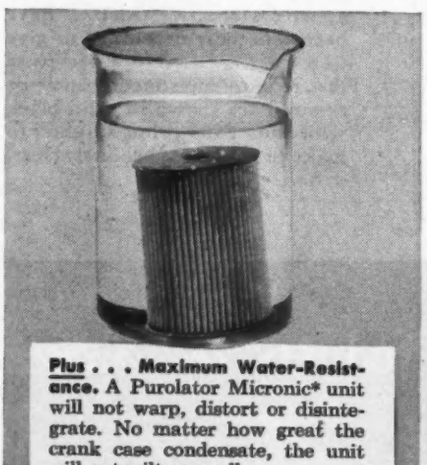
AMONG OIL FILTERS..
Only PUROLATOR ...and PUROLATOR alone...



Only Purolator Gives Up to 10 Times the Filtering Area of old-style filters of same size . . . saves valuable under-hood space . . . assures longer, more efficient action.

Only Purolator Traps 290% More Abrasives . . . holds back particles measured in microns (.000039") . . . gives real protection to bearings and cylinder walls.

Plus . . . Maximum Oil Protection. A Purolator* Micronic leaves *in* important additives many other oil filters take *out*. Oil retains its compounded characteristics.



Plus . . . Maximum Water-Resistance. A Purolator Micronic* unit will not warp, distort or disintegrate. No matter how great the crank case condensate, the unit will not wilt or swell.

Only Purolator combines greater filtering area . . . greater "abrasive-stop" . . . extra oil-protection . . . extra water resistance in one compact unit.

Your supplier has a Purolator* Micronic refill for practically every make vehicle or original filter. He is at your service—at all times.

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada
*Reg. U. S. Pat. Off.

PUROLATOR
MICRONIC OIL FILTER
"FIRST IN THE FIELD OF FILTERING"

ACF Brill, Phila., Pa.
Ambulance, bus—6—$107,043
Engine parts—12,051—$98,326
Bus—$6,913,228
Bus—602—$6,847,610

AC Spark Plug, GMC, Flint, Mich.
Spark plugs—$1,143,848
Cable assy.—15,000—$29,550
Filter—12,000—$30,276
Fuel pump—7,600—$41,097
Misc. gages—23,856—$71,093
Spark plugs—$4,251,260
Aircraft spark plugs—$50,732
Hous., cores—96,710—$128,802
Fuel head—26,000—$42,681
Cleaner, cover—10,500—$143,547
Cables, cores, glass—31,000—$32,056
Gages & switches—7,350—$42,363
Tach. shaft—9,048—$35,550
Spark plug tester—$25,560
Gun sights—$20,000,000
Bombing computers—$16,000,000

American Bosch Corp., Springfield, Mass.
Motor, magnet—4,515—$31,379
Windshield wiper assy.—27,000 ea.—$142,290
Ignition coil—45,000—$62,100
Coil—14,638—$59,525
Vibrators—1,057—$30,455

Barrett Equipment Co., St. Louis, Mo.
Brake lining machine—563—$78,622

Beiderman Motors Corp., Cincinnati
Transfer case, rear axle differential—65—$42,469
Mounting plate—490—$31,683
Steering gear—22,990—$46,844
Shaft, joint—1,175—$52,607
Spare parts—$582,785
Maintenance parts for trucktractors—$49,810
Transfer axle—$43,821
Engine—600—$914,250
Lever stop dowel—$39,413
Maintenance parts for engines—$125,000
Gears, exhaust guide, flywheel pump, wire assy., etc.—6,100—$80,492
Engines—1,005—$2,843,918
Engines—600—$914,250
Distributors—4,000—$39,413
Rotor, elbow, bracket—13,240—$46,956
Shaft, tube—3,575—$54,831
Transmission assemblies & bearings—$53,652

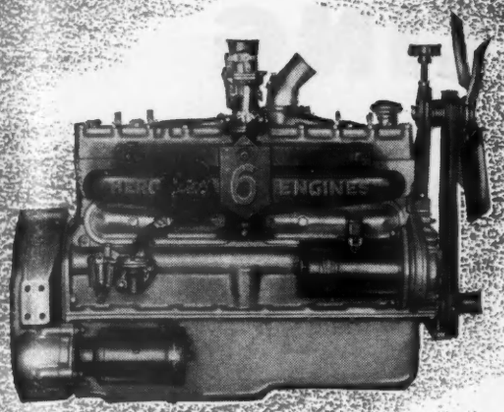
Bendix Avia., Bendix Prod. Div., South Bend
Misc. spare parts—$179,307
Carburetor spare parts—$287,663
Wheel & brake assys.—$1,508,431
Wheel assemblies—$205,000
Wheel & brake assemblies—$551,514
Filter, air cylinder assy.—13,700—$329,628
Front axle shaft assy.—4,000—$101,210
Piston valves—$51,233
Inner cylinder fork & diaphragm assy.—40—$48,352
Brake assemblies—$71,112
Eng. carb. degasser—39,918—$424,001
Piston kit—23,000—$181,044
Repair kit—9,393—$27,048
Spare parts—$44,417
Misc. parts—26,900—$114,129
Pistons, cups, cylinders—109,700—$71,582
Valve kit—9,900—$48,731
Wheel and brake assys.—$131,349
Valve assy.—5,600—$182,712
Carburetor assy.—630—$2,111,419
Diaphragm assy.—5,400—$393,162
Brakes & related spare parts—$229,099
Rotor brakes—$60,620
Carburetor—$75,000
Misc. strut assys.—$30,760
Wheel assys.—$62,494
Wheel and brake assys.—$265,625
Carburetor, washer, valves—46,460—$45,905
Shock struts for aircraft—101—$158,181
Parts for brake—$74,501
Wheel brake & strut for aircraft—33—$139,605
Master controls, fuel injection system, nozzles—$6,765,856
Carburetors and spare parts—$75,000
Wheel & brake assys.—$1,279,000
Wheels & brakes—$216,337
Wheels & brakes—$80,046
Wheel and brake—$1,105,814
Wheel and brake—$675,655
Brake lining—44,775—$83,496
Carburetors—312—$344,239

Bendixx Westinghouse, Elyria, Ohio
Retain, elbow—$52,377

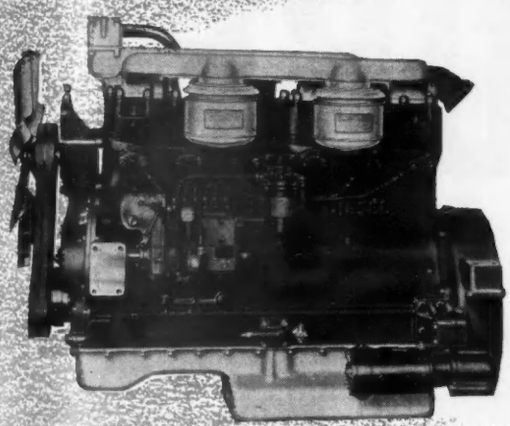
(TURN TO PAGE 304, PLEASE)

More Miles for Your Money with

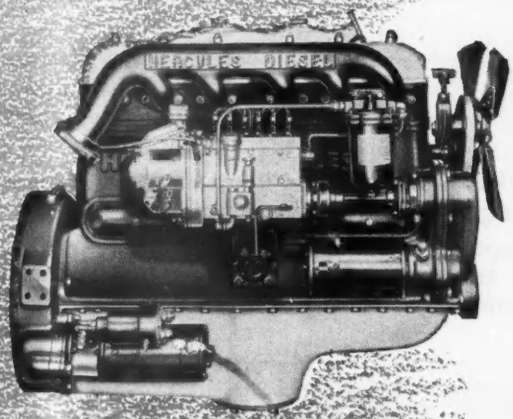
HERCULES ENGINES



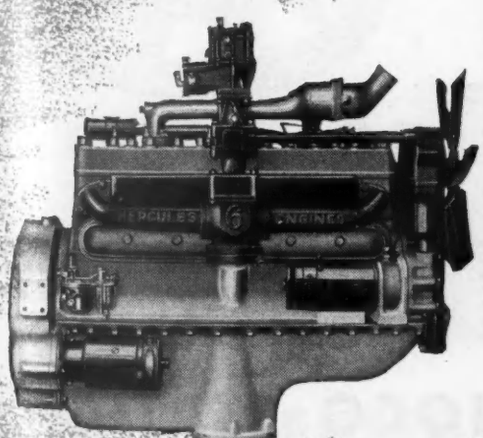
Model JXLD—Hercules 6 cylinder Gasoline Engine
339 cu. in. displacement



Model DFX-Hercules 6 Cylinder
Diesel Engine 935 cu. in. displacement



Model DRX—Hercules 6 cylinder Diesel Engine
529 cu. in. displacement



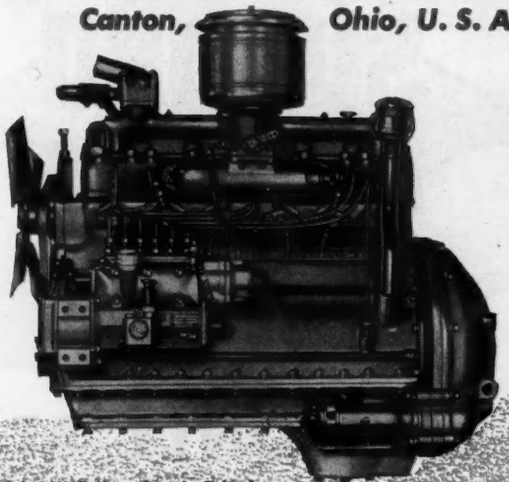
Model RXLDH—Hercules 6 cylinder Gasoline Engine
558 cu. in. displacement

It takes that extra power and zip—the long life performance built into every Hercules high speed, heavy duty truck engine to keep trucks piling up low cost mileage on today's rugged schedules. It takes the streamlined design, sound engineering and modern, simplified construction, for which Hercules engines have an enviable reputation, to keep operating and maintenance costs to a minimum.

Hercules engines for truck service are built in a wide range of sizes and types, both gasoline and diesel, to meet every type of truck installation requirement. The compact design and light weight, heavy duty, high speed features of the Hercules diesel engines make them ideally suited for truck applications. Hercules invites you to draw upon its many years of experience in serving the truck industry with practical power application.

HERCULES MOTORS CORPORATION

Canton, Ohio, U. S. A.



Model DJX6D-Hercules 6 Cylinder
Diesel Engine 248 cu. in. displacement

ANNOUNCING
NEW SUNOCO DYNALUBE

NEW Premium Heavy Duty Motor Oil Combines in a Single Oil All the Finest Features of America's Premium Motor Oils . . . Actually Improves the Condition of Most Engines

Any car . . . newest 1951 or earlier model . . . can now get *the finest engine protection* with Premium Heavy Duty NEW Sunoco Dynalube.

1. Its tough Heat-Resistant Body assures *long* motor oil mileage.

2. Fully Detergent-Dispersant. NEW Sunoco Dynalube cleans engines and keeps them clean. Road dust and contamination from normal combustion are held in harmless suspension until oil is drained at the regular interval.

3. Free-Flowing and Metal-Clinging qualities of this new oil help engines deliver top performance longer.

4. It's both Anti-Rust and Anti-Acid—NEW Sunoco Dynalube counteracts two of the greatest causes of wear on piston rings and cylinder walls in any engine.

5. High FILM Strength and Ring-Sealing Action—insure longer lasting engine efficiency.

NEW Sunoco Dynalube is one of the very few oils that meets or exceeds car manufacturers' recommendations for *all* 1951 cars.

NEW
SUNOCO
DYNALUBE
MOTOR OIL

CERTIFIED TEST
AAA
11CT50

ROAD TESTED

Under the exacting supervision of the famous AAA four different standard make cars were road tested from Quebec to Key West and back. **AAA-CERTIFIED RESULTS: Long Mileage, Engine Cleanliness, Long Engine Life.** Cars using NEW Sunoco Dynalube were driven over 2,000 miles, on the average, before a drop of oil had to be added.

ON SALE ONLY AT SUNOCO STATIONS

AND SELECTED CAR DEALERS

Defense Contracts

Continued from Page 300

Bendix-Westinghouse—cont'd
Crankcase cover—15,512—$34,299
Compressors, screws—800—$42,838
Air compressor assy.—1,200—$104,340

Bowers Bat. & Spark Plug, Reading, Pa.
Batteries—10,350—$115,138
Batteries—4,350—$56,140

Bowser, Inc., Ft. Wayne, Ind.
Fuel tank assy.—$973,180
Meter assys.—$297,994

Boyertown Auto Body Wks., Boyertown, Pa.
Ambulance body—150—$129,013
Ambulance body—556—$538,686

Braden Winch Co., Tulsa, Okla.
Winch assy., gear case cover—1,700—$85,758
Race, cam, gear, gasket, washer—13,027—$76,762

Carbide & Carbon Chemical Div., New York, N. Y.
Hydraulic brake fluid—25,000 gal—$53,345
Aircraft hydraulic fluid—13,660 gal.—$46,853

Chrysler Corp., Detroit
Facilities for prod.—$30,000,000
Elbow, gear, nipple—63,200—$81,790
Tank engines V-12—$100,000,000
Jet engines—$50,000,000

MARION
BODIES AND HOISTS

Symbol of Excellence in

A special 22 cubic yard capacity Marion Body with Telescopic Hoists—installed on a tandem semi-trailer.

Hydraulic Hoists Hydraulic Hoists—Through sound engineering and skillful use of high quality materials, Marion has produced a variety of standard and special hoists for efficient dumping service. Marion's extra attention to detail pays off "on the job" in dependable, economical . . . more profitable operation.

Dump Bodies Dump Bodies—Marion bodies are designed with built-in endurance to withstand the hard knocks of heavy haulage duty. Marion's stronger, all-welded construction means longer body life, less maintenance cost . . . real over the years dependability.

Your near-by Marion distributor can furnish genuine Marion parts and factory "know-how" for your service and repair needs. It pays to deal with an authorized Marion distributor.

MARION BODIES AND HOISTS
MARION METAL PRODUCTS CO.
MARION, OHIO, U. S. A.

Standard and Special Hoists and Dump Bodies for Light, Medium, and Heavy-Duty Service

Misc. parts—39,800—$94,190
Bolts, brackets—28,137—$146,659
Filter bracket plate—38,800—$51,445
Joint plate—5,800—$28,306
Facilities for building tanks—554—$90,000,000
Facilities for building tanks—80—$140,000,000
Nut-pad-kit—39,048—$184,239
Retainer shaft, screws—60,800—$555,221
Rods, bushings, cylinders—535,500—$435,500
Protector & kit—32,000—$243,080
Heater—1,075—$30,594
Engine fuel replacement kit—9,640—$115,945
Arm assy., bracket, bumpers—7,575—$56,316
Engine, complete—3,000—$1,273,500
Seat, w/cushion—3,000—$92,340
Bushings, bearings—81,000—$26,360
Repair kit—14,696—$166,761
Aircraft cable—100,000 ft—$128,766
Seat w/cushion assy.—6,000—$136,110
Hoke, gate—6,500—$28,855
Covers, retainers—27,000—$25,950
Facilities vehicle mfg.—554—$90,000,000
Facilities vehicle mfg.—80—$50,000,000
Generator repair kits—14,000—$24,460
Engine, complete—9,496—$3,772,856
Unit, fuel gage, etc.—53,386—$66,983
Kits—2,125—$28,277
Gears—8,316—$145,681
Fuel tank—4,250—$70,372
Engine—1,000—$192,500
Axle assy.—15,711—$5,213,064
Differential & carrier assy.—10,748
Baffle—2,027
Axles—$193,200
Brake pedal—$96,090
Wick, cover, etc.—69,000—$45,839
Shaft, slinger—126,500—$25,514

Clark Equip. Co., Battle Creek, Mich.
Material handling equip.—83—$25,171
Gasoline powered tractors—106—$158,423

Clark Equip. Co., Buchanan, Mich.
Trucks & tractors—69—$198,793
Trucks, fork, gasoline—164—$348,320
Trucks, fork lift, gasoline—9—$46,271

Continental Motors Corp., Detroit
Engine assy.—6—$99,204
Drawings & parts—$83,632
Engine piston—8,100—$65,539
Engine—$17,374,896
Engine assy.—100—$968,700
Engine—$49,386
Gas engines—1,283—$5,000,000
Spare parts—13 sets
Engine—137—$5,000,000

Continental Motors Corp., Muskegon, Mich.
Arm, valves, brackets, camshaft, etc.—42,229—$47,952
Spare parts—$150,000
Misc. valves & sprockets—24,041—$30,170
Housing—9,700—$39,499
Bearing set, bracket—17,015—$83,610
Shaft seal seat—7,920—$39,098
Pump—1,000—$306,862
Block, pan—1,636—$37,839
Spare parts for aircraft—$60,000
Adapter, arms, blocks—4,530—$40,115
Bearings, brackets, bushing, button, etc.—17,015—$83,610
Connector, impeller, etc.—10,130—$58,825
Bearing, gasket set—16,700—$109,475
Engine assy.—2,100—$4,553,555
Engines & spare parts—$500,000

Davey Compressor Co., Kent, Ohio
Air compressor—59—$140,715

Deman Tire & Rubber Co., Warren, O.
Tires—72,968—$1,701,287

Denman Rubber Mfg. Co., Warren, O.
Tires—900—$41,220
Tires—5,600—$78,277

Detroit Gasket & Mfg. Co., Detroit
Gasket set—40,000—$37,800
Gaskets—$79,618

Diamond T Motor Car Co., Chicago
Gear and pinion set and gear—1,740—$47,775
Mainshaft—2,200—$29,975
Air compressor assy.—660—$52,826
Radiator tank rod—14,059—$40,190
Radiator core—1,073—$63,139
Generator assy.—5,000—$124,600
Transmission, tubes & bushings—5,801—$336,140

(TURN TO PAGE 306, PLEASE)

ARE YOUR TIRE MILEAGE COSTS

plain highway robbery?

PENNSYLVANIA

TRUCK TIRES

PENNSYLVANIA TIRES

PROTECT your Profits...
SOLVE your High
Cost-Per-Mile Problems!

Act now! Find out how rugged, dependable Pennsylvania Truck Tires can roll your trucks farther for less... build miles into bigger profits. They're big, sturdy and precision-engineered to assure maximum mileage at minimum cost. And with Pennsylvania Truck Tires, an extra thick, non-skid tread combines with a husky body to give you more miles right from the start... added mileage from recap after recap. What's more, Pennsylvania Truck Tires feature booster-insert construction which adds strength where strength is needed most... at the inner plies. Check into Pennsylvania Truck Tires *now*... today!

PENNSYLVANIA RUBBER COMPANY MANSFIELD, OHIO

Defense Contracts

Continued from Page 304

Diamond T—cont'd
Carrier, and cap assy. adjuster, etc.—2,857—$50,066
Water pump repair kit—5,660—$65,446
Supports, bodies, covers, bushings—887—$26,780
Pilot cage—4,617—$45,503
Radiator fittings—2,500—$69,610
Gears—10,000—$57,900
Distributors—4,000—$25,880
Yoke—4,048—$34,743
Crank, hub, rod—7,200—$39,348
Engines w/accessories—60—$309,195
Winch & screw hoist—250—$34,855
Relay valve—13,000—$179,400
Crankshaft—1,200—$200,820
Starter—5,245—$209,312
Tumblers, crossmember, side rod, etc.—8,238—$25,497
Springs, roller, chains, etc.—5,900—$26,633
Sleeve housing—6,076—$44,148
Cable carrier, channel, clamp, bell crank, etc.—6,035—$26,064
Truck, tractor—150—$791,250
Shim kit—2,000—$31,390
Distributors—4,000—$25,880
Regulators—5,000—$81,000
Fittings, radiators, misc.—2,500—$69,630
Engine w/accessories—1,600—$2,311,808
Tactical vehicles—$52,500,000

Dixon Mfg. Co., Coffeyville, Kans.
Assembly—$350,000
Hydraulic jacks—$395,783

Eaton Metal Products Corp., Omaha
Gasoline filter—610—$34,753

Thomas A. Edison, Inc., W. Orange, N. J.
Batteries—70,000—$1,278,900

Edison Storage Battery Div., Detroit
Storage battery—57—$91,467

Electric Auto Lite Co., Toledo, Ohio
Armatures, supports, cables—50,254—$59,698
Light, head rotor—177,500—$177,205
Starter assy.—20,968—$46,258
Head lamp—21,136—$50,092
Generator assy.; armature—1,895—$34,293
Starter kit—26,000—$90,518
Coils—10,800—$46,490
Regulator & terminal—8,520—$75,822
Solenoid relay shields—31,111—$152,166
Sealed lamp unit—90,000—$149,157
Starter assy. ring—28,000—$164,496
Insulator lead—47,714—$26,216
Filter, gaskets—27,377—$48,543
Bushings, insul., etc.—97,300—$26,429
Armature, frame—4,500—$108,931
Lights—20,025—$45,463
Coils—18,800—$46,490
Armatures—3,083—$75,610
Regulator kits—50,807—$223,015
Pulleys—4,931—$40,528
Screws, heads, ins.—12,240—$36,143
Facilities for mfg. elec. vehicles—$4,994,485
Distributor pin—13,108—$175,245
Fuel gage—28,324—$35,245
Capacitor—64,395—$54,679
Starter assy.—2,400—$74,278
Housing, wicks—106,211—$29,729
Distributor—20,150—$110,045
Support & coils—5,800—$29,357
Plate kit—45,500—$87,619
Pins, drive assy., generators, cups, etc.—22,491—$474,530

Electric Storage Battery Co., Phila.
Battery—783—$99,638
Torpedo propulsion batteries—600—$1,231,400
Storage battery—1,000—$60,650
Storage batteries—28—$25,467
Batteries—$41,732
Storage batteries—$228,856
Storage battery—39—$65,033
Batteries—21—$28,144
Batteries—76—$26,605
Batteries—1,715—$233,315

Ex-Cell-O Corp., Detroit
Repair parts for Diesel engines—9,340—$65,498

Excelo Manufacturing Co., Alhambra, Calif.
Hydraulic brake fluid—55,000 gal.—$103,125
Hydraulic brake fluid—80,000 gal.—$164,460

Fairbanks, Morse & Co., Chicago
Diesel engine parts—38,005—$642,120
Blower conversion parts—30—$25,000
Generator sets—8—$350,000
Blower conversion parts—88 sets—$50,000

Fargo Motor Corp., Detroit
Automobile—1,019—$1,304,484

Federal-Mogul Serv. Div., Coldwater, Mich.
Engine crankshaft bearing set—30,000—$48,150
Bearings—28,000—$25,348
Bearing sets—93,158—$121,854

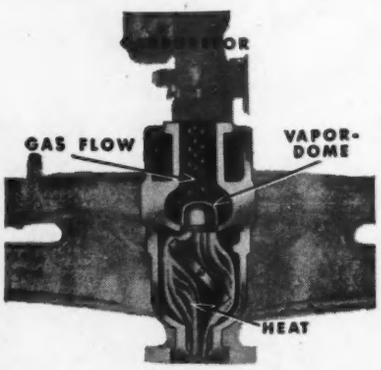
Federal Motor Truck Co., Detroit
Clutch, mainshaft assy.—4,507—$87,858
Blade, tappet, shaft, screw—17,019—$41,396
Plate, shoe—11,023—$268,239
Misc. carriers & end assy.—2,088—$128,164
Differential, transfer assy. flange—1,802—$270,420
Spare parts—$40,500
Hub, nut, shaft—33,358—$94,097
Bearing set—4,040—$50,096
Yoke—6,929—$53,793
Lever, shim—13,430—$70,435
Universal joint—14,000—$75,100
Shim, washer, rod—3,200—$27,453
Transmission assy.—285—$82,112
Shaft assy.—2,981—$105,875
Torque, rod assy., rear axle—1,920—$45,120
Repair kit—626—$204,672
Propellers' shaft bearings—13,540—$37,250
Oil pump shaft—3,756—$61,576

(TURN TO PAGE 308, PLEASE)

Just Like Money in the Bank!

WHY NOT
make your customers' cars
investments instead of liabilities?

VAPOR-DOME
patent pending



*by actual tests to 10%

Give them such savings as better gas mileage*! Increase efficiency, reduce carbon formation and give them other advantages by installing a VAPOR-DOME in their car today. VAPOR-DOME means satisfied customers—and satisfied customers mean more profits for you.

WHAT IS THE VAPOR-DOME?
The VAPOR-DOME is a scientifically designed automotive insert installed in the intake manifold. (see illustration)

Many years of research have gone into the development of the VAPOR-DOME to make it the outstanding automotive achievement of the year.

Join, today, the thousands of other dealers who have given themselves greater profits through satisfied customers by taking on the VAPOR-DOME line.

NEW *PIC-UP*—SMOOTHER PERFORMANCE FOR 1949 CHEVY CARBURETORS

see your jobber or write for further information

VAPOR-DOME

Manifold hot spot corporation

SALES OFFICE
612 N. Michigan Ave.
Chicago 11, Illinois

Dept. C-4

EXPORT OFFICE
38 S. Dearborn St.
Chicago 3, Illinois, U.S.A.

Le Roi *Announces*

. . . with advanced design that gives greater economy, smoother operation, longer life

Here it is at last—a modern, high-compression, V-8 engine for heavy-duty trucks. Designed and built by Le Roi—the pioneer manufacturer of engines for heavy-duty service. Years ahead! These features show why:

★ Modern V-8, high-compression, valve-in-head design!

★ 207 horsepower — speed range, 800 to 3200 RPM

★ Most compact engine in its horsepower range — over-all length only 43"!

★ Lowest weight to horsepower ratio in the industry — only 6 lbs. per HP!

★ Smoother running engine at all speeds — extra rigidity of short box-like crankcase and five large main bearings reduce vibration!

★ Faster acceleration — quick response results from short stroke, light flywheel, and 8-cylinder power impulses!

★ Good high-speed performance — large bore and short stroke provide ample valve area. Unique combustion chamber shape having ample quench area retards detonation!

★ Extra protection — engine is safeguarded by full-flow by-pass filters that keep the oil clean!

These are only a few of many features that make the H-540 the most outstanding engine there is for heavy-duty trucks — that give you better performance and lower operating costs. Get all the facts — send coupon today for the H-540 catalog.

Condensed H-540 Specifications

Number of cylinders	8
Bore and stroke, inches	4½ x 4¼
Displacement, cubic inches	540
Horsepower, rated at rpm	207/3000
Weight as illustrated, lbs.	1250

LE ROI COMPANY

MILWAUKEE 14, WISCONSIN

Plants: Milwaukee • Cleveland • Greenwich, Ohio

Tear out this coupon and mail TODAY!

LE ROI COMPANY
1706 S. 68th Street, Milwaukee 14, Wisconsin

Please send me complete information on the "advanced design" features of your new H-540 engine for heavy-duty trucks.

Name..... Position.....

Company.....

Company Address.....

City..... (.....) State.....

E-70

Defense Contracts

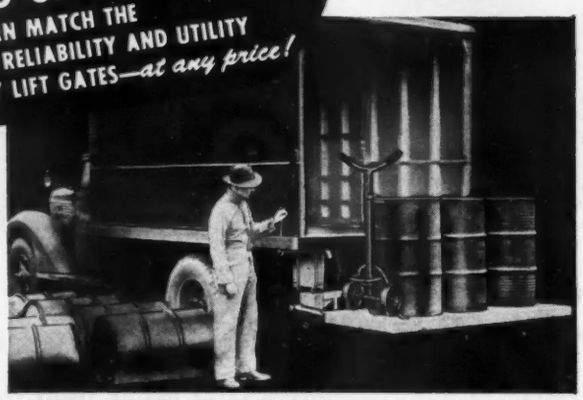
Continued from Page 306

Federal Motor Truck Co.—cont'd
Transfer shaft—3,925—$42,809
Pinion fork gear set—3,958—$58,276
Shock absorber—12,890—$386,700
Axles, gears—1,800—$693,154
Parts for truck tractors—$54,804
Diff. case assy.—1,000—$34,800
Joint—10,000—$55,750
Shim sets—13,252—$22,253
Front axle housing—1,040—$57,256
Cases—1,000—$204,000
Knuckles—$62,406
Front wheel hub—6,500—$162,690
Repair kit, diff.—4,500—$52,325
Input gear—10,000—$57,500
Spacer rods—21,665—$73,403
Bushings, clamps—99,560—$27,118
Support line kit—2,969—$25,483
Gears, studs, kits—6,280—$27,300
Bushing—2,337—$229,000
Front axle brake assy.—28,948—$343,995
Pins, bolts, tubes, etc.—7,446—$423,511
Snap ring, axle shaft assy., axle drive shaft—4,530—$65,608
Pintle hook—4,076—$64,960
Housing—7,369—$315,453
Flange gear—3,653—$100,612
Cylinder head—1,500—$25,950
Washers, gaskets—$83,484
Bolt—9,145—$30,821
Axle, bushing—$475,665
Kits—33,646—$218,699
Gasket, levers, shim—3,718—$193,949
Flange & Manifold—9,800—$94,300
Trucks (5 ton) & parts—$14,000,000

Felt Prod. Mfg. Co., Chicago
Gaskets—50,000—$57,065

ANTHONY "LIFT GATES"
THE STANDARD OF COMPARISON
NO OTHER CAN MATCH THE DURABILITY, RELIABILITY AND UTILITY OF ANTHONY LIFT GATES—*at any price!*

GATE TYPES TO SUIT ALL LOADING METHODS



Why
More Anthony Lift Gates are purchased than all others combined!

ANTHONY LIFT GATE HYDRAULIC — Weight savings add payload and economy.

ANTHONY LIFT GATE HYDRAULIC — Simplicity through up to 75% fewer working parts.

ANTHONY LIFT GATE HYDRAULIC — Greater safety to load and operator through specific features.

ANTHONY LIFT GATE HYDRAULIC — Instantaneous finger tip control at any level, even with maximum load.

ANTHONY LIFT GATE HYDRAULIC — Power with extra reserve from 5" ID cylinder to handle the most unusual type of load.

ANTHONY LIFT GATE HYDRAULIC — A choice of gate types and sizes all with power closing of your selection.

GENERAL PURPOSE TYPE GATE. Suits over 90% loading methods. Choice of Power closing—(see below). Anthony Lift Gates are the choice of operators who make comparisons.

RAMP TYPE Gate for wheel-on loadings at ground level. Simplicity is the reason 8 of 10 elevating tail gates you see are Anthony Lift Gates.

"PICK-UP" TYPE for ½ and ¾ ton trucks—Hydraulic power. Speed, durability and simplicity identify Anthony Lift Gate.

YOUR CHOICE OF POWERED CLOSING
HYDRAULIC POWER Closing (top)—a flip of a lever closes it.
SPRING POWERED Closing (bottom)—a flip of the hand does it.

FITS ANY MAKE OF BODY
NATIONAL DISTRIBUTION SALES and SERVICE

ANTHONY LIFT GATE HYDRAULIC — ANTHONY CO., STREATOR, ILLINOIS
DEPT. 291

Firestone Ind. Products Co., Akron
Strip-3 shoe, shoe assy.—63,975—$12,546,-111

Firestone Tire & Rubber Co., Akron
Disk wheel—100,000—$3,662,000
Airplane casings & tubes—$460,861
Tires—25,700—$529,163
Tires—2,650—$190,730
Tires & tubes—3,032—$49,941
Tires—500—$117,895
Tires—26,500—$1,219,401
Aircraft casings—$146,921
Aircraft casings and tubes—$549,122

Firestone Tire & Rubber Co., Los Angeles
Fuel cells—$179,685
Tires & tubes—490—$9,353
Tires & tubes—1,202—$26,547
Tires & tubes—11,454—$216,162
Tires & tubes—10,645—$25,414
Fuel tanks—$1,574,370

Fisk Div., U. S. Rubber, Detroit
Tires—6,600—$436,896

Ford Motor Co., Detroit
Automobile, sedan—964—$1,314,164
Facilities for production of engines—$14,-700,000
Tank engines—$40,000,000
Aircraft engines & spare parts—$35,099,-690
Rack assy., stakes., covers—2,340—$70,443
Buses—500—$1,986,813
Buses—1,772—$7,255,954
Trucks—10,293—$18,515,441
Trucks—5,030—$5,734,738

Fruehauf Trailer Corp., Detroit
Spare parts—$59,134
Pin assy.—4,760—$34,356
Trailer, trucks—35,883—$34,786,484
Crane & hoist assy.—101—$58,620

G. M. C., Buick Motor Div., Flint
Automobiles—28—$39,198
Tank transmissions—$65,000,000

G. M. C., Cadillac Div., Detroit
Engine assy.—1,000—$2,000,000
Transmission assy.—5,000
Light tank—1,381—$25,000,000
Light tanks—$110,000,000
Mid-range motor carriage & parts—489—$35,000,000

G. M. C., Chevrolet Div., Detroit
Trucks—6,519—$7,437,093
Automobile, sedan—1,000—$1,315,819
Truck—20—$30,559
Shoe, w/lining assy.—116,416—$135,002
Truck, pick up—1,288—$1,723,700
Trucks—476—$573,062
Automobile—189—$251,448
Trucks—94—$143,206
Sedans—13,109—$15,959,252
Pickup trucks—320—$379,046
Trucks, ½ ton—444—$677,473
Truck, ½ ton stake & platform—1,476—$2,612,053
Caps, clips, covers—26,000—$36,780
Yokes, leafs—10,600—$21,000
Gear—1,500—$26,580
Major item—30—$54,402
Kit—20,000—$78,200
Trucks—536—$834,713
Platform trucks—483—$892,659

G. M. C., Ternstedt Div., Detroit
Range finders—$8,000,000

G. M. C., Detroit Diesel Engine Div., Detroit
Parts for Diesel engines—50,746—$40,397
Range finder—500—$8,000,000
Generator set, Diesel engine driven—24—$300,000
Tip, retainer, washer—33,083—$60,854
Parts, etc.—33,083—$60,854

General Motors Corp., Detroit
Switch, spring, etc.—12,000—$141,237
Generator sets—12—$200,000

G M. C., Electro-Motive Div., La Grange, Ill.
Parts for Diesel engines—26,753—$152,306

G. M. C., Oldsmobile Div., Lansing
Parts for 3.5 in. rockets—4,670,000—$4,-580,000

(TURN TO PAGE 310, PLEASE)

"78,000 MILES! AND THESE TIRES AREN'T HALF WORN!" Reports

RINGSBY TRUCK LINES, INC.
DENVER, COLORADO.

Operations Sup't. F. E. Day uses two cigarettes to show Boss J. W. Ringsby remaining tread on tires after rolling 78,000 miles on a 35' Stainless Steel Gravity-Tandem Trailer.

THEY'RE ROLLING ON FRUEHAUF'S TIRE-SAVING GRAVITY-TANDEM!

OPERATORS across the country are gearing up with Fruehauf Gravity-Tandem Trailers — Vans, Platforms, Tank-Trailers — to conserve on available rubber during the long-haul period of tire scarcity ahead.

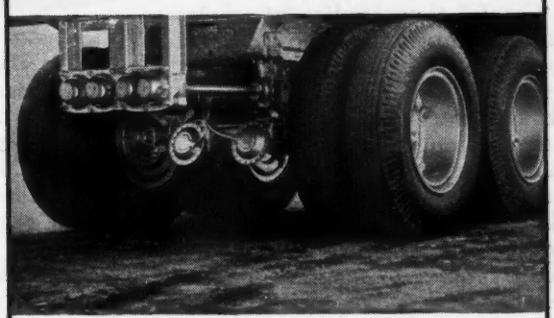
Let your Fruehauf man show you the reports of operators who are already getting *double* . . . *triple* . . . and *4 times normal tire life* on Gravity-Tandem Trailers of all types.

Stop in at your nearest Branch for a full showing of the film — "GRAVITY-TANDEM SUSPENSION." In a few minutes you'll realize why Fruehauf's freer-trailing, self-steering Gravity-Tandem is the greatest money-saver available on any trailer today.

FRUEHAUF TRAILER COMPANY

10953 HARPER AVE. • DETROIT 32, MICH.
LOS ANGELES 58 • In Canada: WESTON, ONT.

This is what does it!



Utilizing revolutionary torsion-bar springs, Gravity-Tandem provides perfect springing action for all load and road conditions . . . from no load to overload. Loads are distributed equally on all tires. Trailer travels level while wheels freely follow the road contour. Automatic axle action steers tires around curves . . . *they can't scuff*. Wheels can't hop in braking because torque can't be transferred from brake to brake.

GRAVITY-TANDEM LETS YOUR LOAD TRAVEL LEVEL
WHILE YOUR WHEELS FLOW FREELY OVER THE ROAD

FRUEHAUF GRAVITY-TANDEMS SAVE $ $ $ ON TIRES!

Defense Contracts

Continued from Page 308

G. M. C., Pontiac, Mich.
Felt, shim, yoke—77,000—$32,100
Engine housing—2,500—$35,775

G. M. C., Truck & Coach Div., Pontiac, Mich.
Automotive parts—$38,772
Harness assy.—15,500—$46,218
Adjuster, bushing—104,000—$68,370
Shaft, housing—39,947—$122,312
Hanger, cover—8,500—$28,605
Trucks—13,366—$30,000,000
Support, fork, shifter, lock—4,233,200—$97,159
Bands, bolts, levers, etc.—96,050—$80,875
Yoke, rod—9,000—$25,426
Covers—46,000—$211,527
Bolt repair kit—75,500—$277,212
Repair kit cable, harness—19,150—$43,918
Kit, steering, gear lever, screw—142,666—$99,888
Balancer, cover, etc.—120,000—$120,835
Windshield glass—2,000—$40,700
Clutch housing—2,500—$35,775
Fenders, panels, pans, & boards—33,850—$44,373
Drums—76,400—$150,516
Collar, seal—207,310—$130,761
Crank, tube—21,100—$35,224
Bushings—651,677—$265,550
Truck—770—$2,433,897
Front axle shim—40,000—$147,175
Steps, rods—16,300—$40,513
Clutch plate—25,000—$197,500
Bolt, caps, blades—34,000—29,854

Careful time studies of truck and bus repair jobs show that a mechanic, working on a dirty, grease encrusted motor or chassis, wastes up to 40% of his time wiping oil, grease and muck from tools and equipment. But when equipment is steam cleaned with Hypressure Jenny *before* repairs, those lost man-hours are saved, repair and maintenance time is cut practically in half, and your vehicles are back on the road — and earning — twice as fast.

In addition to speeding repairs and service, Hypressure Jenny steam cleaning "ups" payloads by removing accumulated road dirt . . . makes possible detection and repair of otherwise unnoticed damaged or worn parts . . . reduces fire hazards. Hypressure Jenny cleans garage floors, runways, pits, lifts, walls, windows, etc. 10 times faster — and better—than by hand methods.

Write for FREE BOOKLET, "1001 Ways to Extra Profits". It tells how Hypressure Jenny can earn you Extra Pay-Mileage by cutting repair and maintenance time practically in half.

There are other steam cleaners but
THERE IS ONLY ONE HYPRESSURE JENNY

HYPRESSURE JENNY DIVISION
Homestead Valve Manufacturing Co.
P.O. BOX 90 "Serving Since 1892" CORAOPOLIS, PA.

Covers, gaskets, manifolds—27,000—$33,510
Filter, pipes, bond—6,700—$135,830

G. M. C., United Motors Service Div., Detroit
Armature—1,500—$26,535
Generators—4,070—$328,856
Plugs, links—73,620—$50,087
Regulators—11,078—$65,230.98
Engines—$27,095
Distrib. kits—43,000—$88,740
Bushings, caps, armature—16,687—$33,097
Coupling, plate—32,511—$29,796
Generator regulator—7,022—$177,726
Screws—2,770—$26,189
Lead kits, etc.—10,178—$41,271
Cylinder—30,000—$35,400
Generator, condenser—500—$46,374
Bolt, cam, collar—74,659—$28,266
Gearings, race—372,517—$757,881
Generator—4,070—$328,856
Distributor kits—43,000—$88,740
Plugs, link assy.—73,620—$50,087
Bearings—57,450—$164,393
Generators, lights—5,100—$20,588
Batteries—$709,920
Link—28,000—$33,400
Breaker, housing—59,450—$50,213
Wicks, washers, studs—54,517—$30,419
Thermostat—109,970—$47,086
Boots, cover, screws—39,400—$119,468
Absorber—8,100—$34,870
Roller bearings—18,225—$34,136
Roller bearings—25,250—$71,135
Switch, coil—11,333—$31,082
Switches—$42,734
Repair kit—100,000—$159,368
Regulator—$45,929
Washer, straps—42,049—$26,869
Starter, switch—3,600—$72,235
Starter motor—5,508—$113,033
Plugs, links—73,620—$50,087
Bearings, valves—372,517—$757,881
Distrib. kits—$88,740
Distrib. generator—8,632—$250,833
Generator head—21,161—$33,776
Engine starter—2,010—$131,996
Motor switch—12,517—$65,750
Washer repair kit—37,843—$38,765
Distributor, shaft base—509—$31,420
Absorber—16,660—$77,302
Spotlight—4,000—$38,000
Repair kit, generator—25,067—$69,188
Starter housing stud—31,430—$52,741
Storage battery—2,400—$77,016

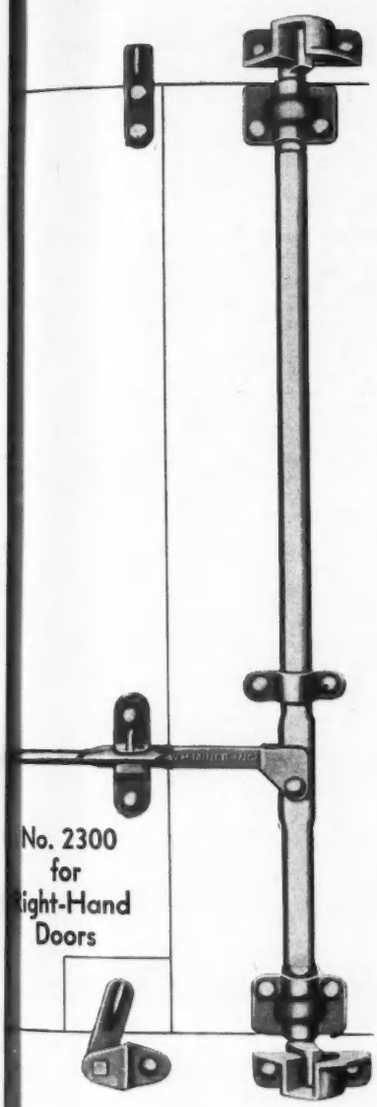
General Tire & Rubber Co., Akron
Tires—39,830—$1,452,032
Aircraft casings—$123,042
Vibration insulators—$44,648

Goodyear Tire & Rubber Co., Akron
Disk used on brake assy.—550—$30,371
Wheel assemblies—$38,709
Tires & tubes—93,169—$6,161,096
Wheel & brake assys.—$1,967,013
Camelback—206,000 lb—$47,132
Wheel and brake asys—895—$61,104
Wheel and brake assys.—$36,776
Strip-8 shoe, shoe assy.—63,975—$12,546,111
Wheels and brakes—$220,395
Tires—13,200—$997,350
Tires—8,890—$215,595
Tubes—7,350
Brake disk—16,192—$61,182
Fuel tanks—$1,562,708
Tires—7,293—$762,589
Wheel & brake assys.—$196,156
Cylinder, brake, & wheel assy.—690—$84,653
Tires—10,930—$459,616
Wheel & brake assys.—$1,683,698
Wheel & brake assys.—$1,300,950
Tires—2,119—$215,318
Gas hose—$69,311
Aircraft casings and tubes—$143,204
Aircraft casings—$212,375
Wheels and brake assys.—$53,760
Wheels and brakes—$108,042
Wheels and brakes—$113,500
Wheels—$53,748
Wheel and brake assys.—$172,620
Brake assys.—300—$74,983
Fan belt—12,000—$26,520
Tires—1,600—$58,258
Tubes—36—$248
Tires, tubes—2,868—$50,835
Tires, tubes—3,418—$90,776
Tires, tubes—1,630—$78,884
Tires, tubes—1,627—$7,149

Gould Natl. Batteries, St. Paul, Minn.
Batteries—70,000—$1,258,600
Batteries—1,255—$64,005
Storage batteries—44—$73,004
Storage batteries—20—$35,667

(TURN TO PAGE 312, PLEASE)

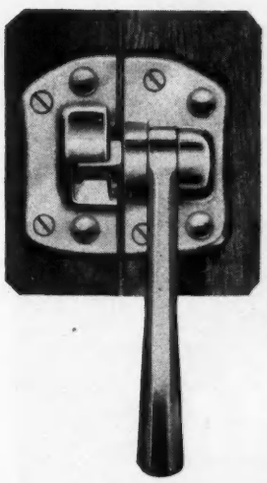
IN YOUR BODY SPECIFICATIONS . . .
Include MINER DOOR FASTENERS AND HINGES



MINER
TUBULAR BAR TYPE
DOOR FASTENER
for
Truck and Trailer Bodies

This new Miner Truck Door Fastener No. 2300 is applicable to all sizes of rear and side doors, either single or double, and particularly desirable for refrigerator bodies.

The left-hand design of this fastener is designated as No. 2350.

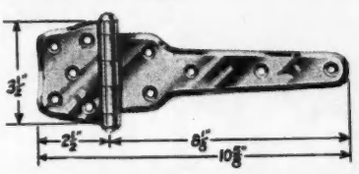


MINER
LATCH TYPE
DOOR FASTENER

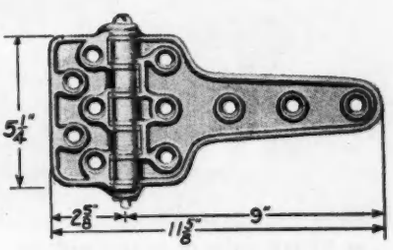
This device serves as an efficient door opener and closer as well as a dependable door lock. Operates on the cam principle, providing great leverage, thereby making it possible to open and close insulated doors without jerking or slamming.

MINER DOOR HINGES
for TRUCK and TRAILER BODIES

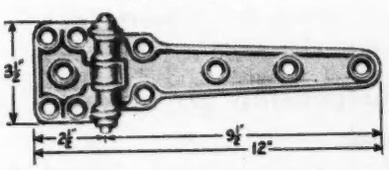
Miner Hinges combine attractiveness, strength and durability. They are exceptionally sturdy in construction, yet so designed that all excess weight is eliminated.
Made for flush-type doors.



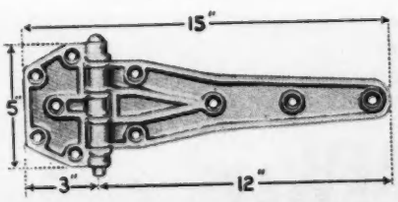
No. 1855. Especially desirable for small doors of ice cream bodies. Furnished in special bronze alloy, chrome plated, or in malleable iron, with special aluminum finish.



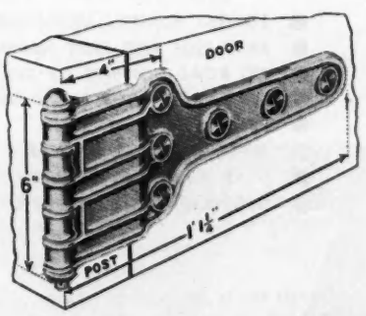
No. 1673. Recommended for large, heavy, insulated doors. Made of drop-forged steel, with special aluminum finish.



No. 1857. Recommended for medium size doors. Made of drop-forged steel, with special aluminum finish.



No. 1954. Recommended for large, heavy insulated doors. Made of malleable iron, with special aluminum finish.



No. 1953. Designed for use on rear doors. Permits doors to be swung to side of truck body. Made of malleable iron, with special aluminum finish.

W. H. MINER, INC. · ROOKERY BLDG. · CHICAGO

Defense Contracts

Continued from Page 310

Guide Lamp Div., GMC, Anderson, Ind.
Lights—30,182—$168,944
Sleeve assy., headlight mounting—38,990—$31,772
Light assy.—25,062—$41,913

Hammond Mfg. Co., Pasadena, Calif.
Type K-1 trailers—$68,076
Shipping containers for aircraft engines—1,000—$561,000

Hartman Elec. Mfg. Co., Mansfield, O.
Cut-outs and relays—$80,869
Cut-out, reverse current—$72,617
AMP reverse current cutout—$175,763

Hercules Motor Corp., Canton, O.
Hercules engine parts—9,711—$27,426

Highway Trailer Co., Edgerton, Wisc.
Truck V-18—53—$50,000

Hobart Brothers, Inc., Troy, O.
AC engine generator sets—$240,881

Holley Carburetor Co., Detroit
Services and material—$150,000
Control assys.—200—$83,000

Ingersoll Rand Co., New York, N. Y.
Engine driven compressor—31—$55,432
Compressors—$307,977

Inland Rubber Corp., Chicago
Tires—23,000—$928,510
Tire—6,000—$229,500

International Harvester Co., Chicago
Bus, 37 passenger—350—$1,765,653
Bearing—20,000—$34,932
Trucks—3,050—$8,000,000
Automotive parts—2,993—$30,738
Transmission assy.—100—$40,750
Shackle nuts, pins, bolts—48,265—$47,914
Bushings, caps, clips—50,400—$41,021
Hub retainer—11,350—$27,514
Heads—$62,383
Engines—700—$803,669
Transmission cover—1,200—$121,339
Cap, joint—8,880—$54,555
Bolts, nuts, gage kit, etc.—33,625—$32,342
Truck, tractor—545—$2,965,778
Truck, 2½ tons—691—$2,290,745
Nuts, axles—$41,756
Engines—700—$803,669
Engine cylinder sleeve—15,000—$73,800
Covers—9,600—$38,400
Gears, jacket, tubes—605—$35,964
Differential, gears, etc.—339,000—$37,549
Dump truck—$34,130
Engine—700—$803,669
Filters, etc.—14,862—$26,682
Trucks—13—$27,801
Trucks—181—$1,010,710
Truck, 5 ton—20—$113,411
Spare parts—1 set
Combat and other military vehicles—$393,000,000

Int'l Spare Parts Corp., L. I. City, N. Y.
Bearings—2,910—$31,781
Rod—6,440—$113,279
Flywheel—2,008—$127,688
Engine—400—$938,236
Oil pump, gear, pin—17,842—$27,134
Crankshaft flange, bolt—130,625—$27,308
Misc. coils—10,066—$31,007
Blade, housing—4,700—$49,048
Bearing—8,421—$33,599
Governor—6,118—$398,869
Rods, elements—2,583—$26,275
Wheel w/ring—2,225—$51,419
Adapter, arms, bolts, etc.—63,774—$430,832
Shaft assy. spindle sleeve—7,955—$28,720

Kelly-Springfield Tire Co., Cumberland, Md.
Tires—479—$70,533
Tires—14,564—$695,151
Tires—1,500—$68,280
Tires—2,300—$32,390

Kenworth Motor Truck Corp., Seattle
Power takeoff, gear set—1,180—$41,453
Transfer assy.—100—$29,319
Sleeve, axle, arm, etc.—1,552—$37,547
Cap, carrier, clutch, etc.—1,576—$39,947
Differential carrier—350—$106,400
Cover, bearing, fork—4,286—$74,816
Misc. parts—17,915—$26,362
Cage, hub, knuckle, front axle—4,562—$122,379
Gear set—1,300—$45,576
Washers—29,654—$32,448
Hubs, levers, washers—63,963—$53,318
Studs, rods, pins—23,649—$29,880
Shaft—7,200—$120,442
Extension, filter, etc.—9,151—$123,304
Gages—1,519—$398,870
Plates—3,746—$43,670
Bracket—1,518—$28,110
Universal joint—3,800—$421,382
Shaft, spring, spacer, etc.—4,744—$65,914
Transmission assy. & shift fork—528—$94,093

Knorr-Maynard, Inc., Detroit
Slack adjuster—10,420—$37,836
Brake shoe—2,060
Governor assy.—1,076—$29,980
Hand brake assy.—3,086—$53,502
Connector—$55,433
Hose—4,044—$35,485
Gear, governor, etc.—15,100—$28,380
Engine governor—1,027—$25,204
Retainer cover—29,200—$81,303
Body & bushing assy.—3,082—$36,564
Bushing—63,250—$94,678
Cylinder head—1,766—$37,762
Governor, gear—5,235—$67,682
Governor, gear—15,100—$20,380
Compressors—895—$83,482

Lanagan & Hoke, Inc., Phila., Pa.
Tester assy.—$83,530

Lee Tire & Rubber Co., Conshohocken, Pa.
Tires—1,300—$141,531
Tires—24,000—$1,006,152

Liquidator Corp., Long Island City, N. Y.
Fuel and oil indicators—$75,618
Liquidometer—300—$73,541

(TURN TO PAGE 314, PLEASE)

Operators report as many as 200,000 miles of service with no maintenance expense or down time. The trunnion shaft is mounted on two rubber bushings, eliminating the necessity of lubrication at this point.

the NEWAY Tandem Suspension gives you:

- LOWEST POSSIBLE UNSPRUNG WEIGHT
- EASY RIDE AND EASY HANDLING
- NO ROAD-HOPPING OR TIP-OVER ACTION
- NO RADIUS RODS TO ADJUST
- PERMANENT ALIGNMENT
- SUPERIOR SPRING DESIGN
- LOAD EQUALIZED BETWEEN AXLES
- THOROUGHLY ROAD TESTED AND PROVEN IN SERVICE

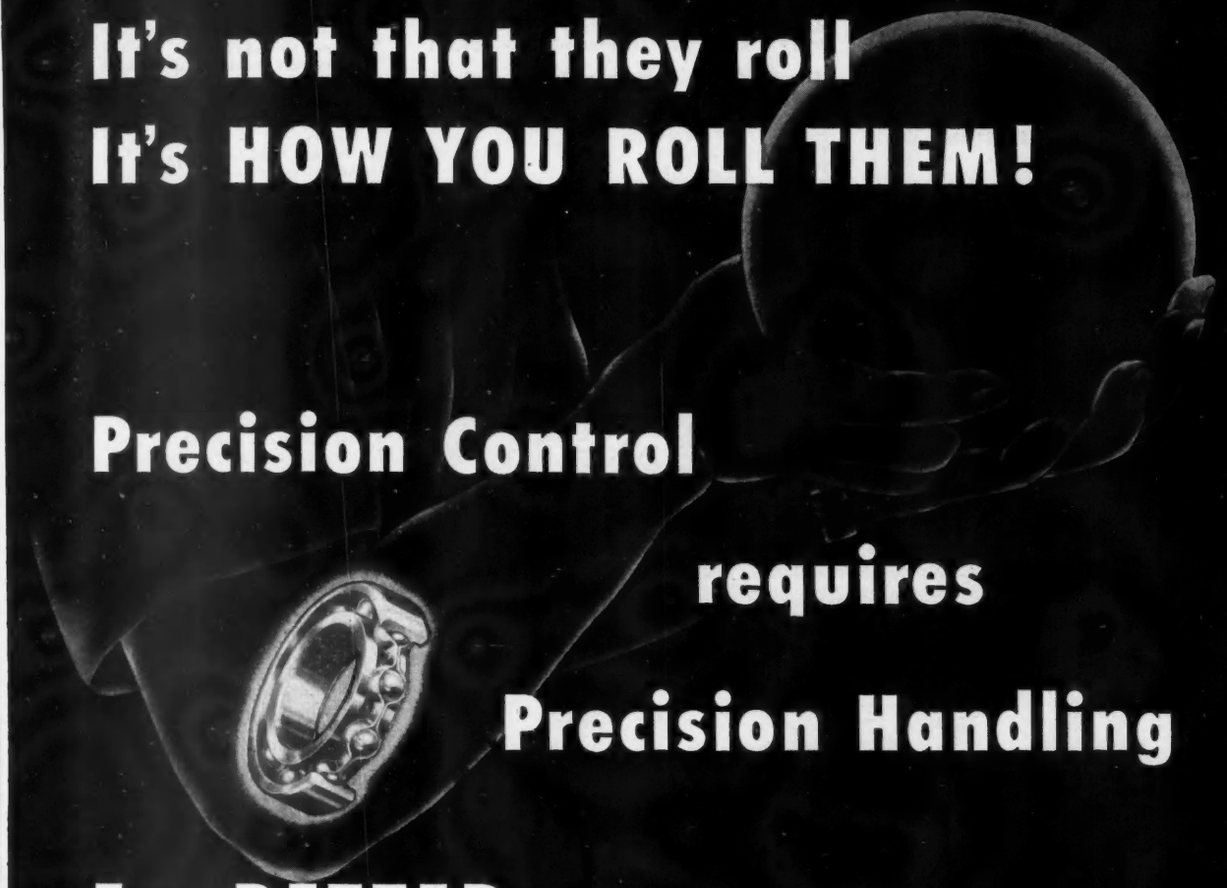
Write today for more complete information and specifications.

NEWAY Equipment Company

Muskegon, Michigan, U. S. A.

ALSO MANUFACTURERS OF THIRD AXLES FOR TRUCKS AND TRACTORS

It's not that they roll
It's HOW YOU ROLL THEM!



Precision Control requires Precision Handling

For BETTER BEARING MAINTENANCE see your "BEARING SPECIALIST"

OVER 90% of the bearings that are normally replaced would have continued to give efficient operation if they had been maintained by the methods advised by your "Bearing Specialist", the AFBDA member in your locality. Constant study in the field and frequent factory refresher courses keep him constantly up to date on all new bearings and bearing techniques.

Your AFBDA member carries complete stocks of all bearings to meet your normal needs or emergency requirements. He also maintains a highly skilled group of skilled technicians able and eager to advise you on how to bring to a minimum your bearing replacement expenditures. If he is not servicing you now why not get in touch with him immediately.

ANTI-FRICTION BEARING DISTRIBUTORS ASSOCIATION — MEMBER AFBDA

NEW! Free to users of Anti-Friction Bearings! The first issue of the AFBDA BEARING MAINTENANCE REPORT is ready for release. This digest of all the latest information available on the economical maintenance and service of anti-friction bearings will appear at regular intervals and will be mailed to any company executives requesting it on company letterhead. A sturdy cover file in which succeeding issues can be compiled will be mailed with this first issue.

Our publishing purpose is to assemble, for the first time, all improved practices in bearing maintenance, and to constantly add every new maintenance development. WRITE FOR IT TODAY!

FREE!!!

THE ANTI-FRICTION BEARING DISTRIBUTORS ASSOCIATION
1900 EUCLID AVENUE • CLEVELAND 15, OHIO

Defense Contracts

Continued from Page 312

Long Mfg. Div., Borg-Warner Corp., Detroit
Disk clutch assy.—50,325—$1,027,636
Disk—20,000—$51,200
Disk—20,00—$51,200
Disk, engine clutch—5,723—$122,357
Platen, press—272—$178,982
Block—$25,055
Facing—75,000—$165,000
Block—$25,055
Yoke, plate, lever—54,162—$32,292
Disk, engine clutch, assy.—6,308—$54,292.

Mack Mfg. Co., Plainfield, N. J.
Bell housing, etc.—1,480—$120,126
Repair kit—$243,000
Engine assy.—176—$491,568
Misc. parts—5,870—$26,109
Screws, gaskets, bushings—10,500—$26,941

Mansfield Tire & Rubber Co., Mansfield, Ohio
Tires—12,200—$95,754
Tires—12,300—$734,459
Tires—500—$35,290
Tires—1,000—$69,940
Tires—4,500—$210,555
Tires & tubes—189,550—$3,749,410
Tire—4,000—$235,000

Metro Engineering & Mfg., Detroit
Cab closures—250—$125,700
Cab closures—510—$212,287
Kit assy.—$433,000

Mohawk Rubber Co., Akron
Tires—6,600—$486,120
Tires—41,562—$4,161,564
Patch tire—535,000—$1,162,040
Tires—6,000—$503,040
Tires—9,600—$171,717
Tire repair materials—265,200 lb—$168,400
Camelback—222,500 lb—$105,820

New Process Gear Corp., Syracuse, N. Y.
Retainer, trans. shaft—10,474—$60,225
Gear, shaft—8,000—$72,080
Gear—25,000—$164,500
Transmission assy.—8,416—$767,960
Transfer case—8,000—$114,000
Covers, pins, etc.—90,125—$1,045,152
Link, shaft, fork—12,000—$59,570
Bushing, lever, etc.—12,602—$206,149
Drums—7,000—$36,900

Pacific Rubber Co., Oakland, Calif.
Tires—61,440—$1,888,921
Camelback—400,000 lb—$92,800
Camelback—400,000 lb—$92,800

Packard Motor Car Co., Detroit
Diesel engine—20—$4,000,000
Diesel engine generator set—20 sets
Design, develop engines—$20,000
Diesel engines—34—$3,500,000

Pefex Corp., Milwaukee, Wisc.
Radiator parts—7,727—$1,042,705

Pennsylvania Rubber Co., Mansfield, O.
Tires—1,100—$40,766
Tires—700—$62,531

Pesco Products Div., B-W Corp., Bedford, O.
Pump assembly—$66,413
Fuel booster—$30,958
Fuel pump parts—$60,802
Maintenance parts—$96,872
Motor—243—$31,965
Pump assembly—$33,900
Relief valve for fuel pump—1845—$45,008
Gear drive used on pump for aircraft—1335—$75,973
Fuel booster pumps—$229,142
Fuel booster pump—$92,663

Purolator Products, Inc., Rahway, N. J.
Fuel element assembly—$32,000
Trans. oil filter element—9,500—$32,172
Filters—$169,400
Drivers, elements—4,550—$38,269
Element and gasket—$51,750

Reo Motors, Inc., Lansing, Mich.
Trucks (various)—$110,000,000

Seiberling Rubber Co., Akron
Tires—400—$22,440
Tires & tubes—2,300—$36,609
Tires—32,730—$873,684

Solar Corp., Milwaukee, Wis.
Batteries—10,000—$145,800
Batteries—7,800—$260,029
Batteries—12,000—$204,480

Stewart-Warner Corp., Chicago, Ill.
Speedometer assy.—69,977—$236,686
Tachometer assy.—2,835—$43,925
Automotive equip.—$60,437
Gears—10,020—$26,252
Sending unit—260—$37,946
Floor ring gearshift—3,000—$26,100
Shafts, cores, instruments, etc.—15,735—$30,701
Pinion, shaft—43,481—$26,675
Water gage—25,000—$41,250

Studebaker Corp., South Bend, Ind.
Cargo trucks—4,500—$12,380,000
Military trucks—$76,000,000

Thermoid Co., Trenton, N. J.
Lining, brake band—4,500—$156,880
Linings—41,629—$63,332

Thompson Products, Inc., Cleveland
Pump assemblies—$201,881
Fuel booster pump—$37,625
Booster pumps—$33,049
Retainer, gasket, washer, sleeve—$94,758
Pumps—324—$47,628

Timken-Detroit Axle Co., Detroit
Components—$29,000,000

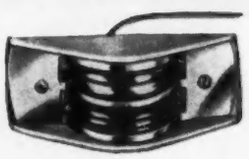
Twin Disc Clutch Co., Racine, Wis.
Parts for Diesel engines—1,525—$28,300
Parts for Diesel engines—43,357—$55,636
Wheel assy.—400—$32,380
Shafts and pumps—1,590—$40,521
Wheel—380—$57,760

(TURN TO PAGE 316, PLEASE)

DO-RAY

DO-RAY'S extensive line (one of the largest in the market) is your best opportunity to develop sales and profit in Safety Lighting & Reflecting Equipment.

No. 70—Giant Lite. Dia., 7-5/16". Body bracket allows four mounting positions. No. 71—Flush mounting type.



No. 415—Armored Clearance Lamp with heavy metal guard; center bar for additional strength. Silver-like lustre finish.

No. 69—Giant Twin Lite for snow plows, police, fire, state patrol cars and trucks, emergency and 'wrecker' vehicles.

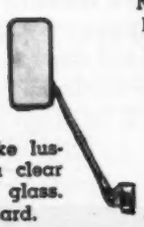
No. 44-S—4" Stop Lamp with universal hinge bracket for easy mounting. Body & door chrome

No. 44—Back-Up Lamp with white diffusing lens

No. 1352T—Stop and Tail Lamp. Two-bolt mounting for Chevrolet trucks 1942-1950. All black enamel finish.

No. 500—Do-Ray Thin Model Fog Lamp. Bright chrome body, stainless steel door. Universal hinged bracket (die cast) mounts in many positions on all passenger cars.

No. 1127—Doorless Stop and Tail Lamp with Tiger-Eye Reflex lens and universal type mounting bracket.



No. 1368 Universal Do-Ray Truck Mirror. Silver-like lustre finish. In clear or non-glare glass. Protective guard.

Mirror glass replaceable.

No. 1319 Do-Ray Universal Junior Truck Mirror. Cab or hinge installation. Silver-like lustre finish Rubber guard.

See DO-RAY'S superior line of directional signals for cars and trucks. Also directional signal conversion kits for cars back to 1939 and some earlier models.

Write for new, complete DO-RAY catalog.

DO-RAY LAMP CO. 1458-64 S. MICHIGAN AVENUE CHICAGO 5, ILLINOIS • U.S.A.

THE NEW, LOW COST
LUBRICATION INSURANCE FOR FLEETS!

Now you can have the added savings of buying GENUINE WIX in the economy-priced WIX-PAX Service. WIX-PAX comes to you *direct from the factory or Pacific Coast Warehouse*—PREPAID shipments—in lots of 100 lbs. or more. WIX-PAX Cartons of 12 or 24 Sock Type or 12 Can Type Cartridges with gaskets included. Assortments of your choice can be had in these small, standard cartons. This is no "second" line graded down to a price . . . it's the revolutionary new, high performance WIXITE construction which traps all contaminants without removing valuable detergent additives. It's engineered to fit all the popular oil filters on your payload units. Ask your Jobber for prices on this new, low cost, direct WIX-PAX Service—it will make dollars and sense to you.

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CANADIAN FACTORY: WIX ACCESSORIES CORP. LTD., 11 Wabash Ave., Toronto 3, Ont.

Defense Contracts

Continued from Page 314

United Auto Parts Co., Kansas City, Mo.
Body—625—$367,500
Windshield—2,000—$59,900
Housing—$44,390
Front axle kit—80,000—$72,200

U. S. Gage Div., Sellersville, Pa.
Hydraulic pressure transmitter—$255,295
Oil pressure transmitter—$210,697
Oil pressure transmitter—$116,412
Pressure gages—$54,670
Torque transmitter—$103,517
Airspeed indicators—$57,408

U. S. Mtr. Trk Sales, Detroit
Steering repair kit—20,000—$51,000
Kits—10,670—$29,555

United States Rubber Co, Detroit
Tires—6,500—$362,180
Tires—3,100—$62,560
Strip-8 shoe, shoe assy.—79,625—$8,278,133
Tires—2,750—$398,596
Tires & tubes—67,540—$3,722,041
Tires—2,172—$61,179
Camelback—100,000 lb.—$35,000
Camelback—100,000 lb.—$35,000
Tires—1,000—$50,290
Tires & tubes—9,555—$307,327
Tires—2,414—$49,440
Tubes—1,710—$4,147
Fuel tanks—$1,501,815
Fuel cells—$35,721
Liner assy.—706—$216,378

Valve Div. (Eaton Mfg.) Detroit
Exhaust valve—26,000—$250,900
Valves—22,211—$44,649

Wagner Electric Corp., St. Louis, Mo.
Master brake cylinder—4,680—$43,284
Hydraulic brake cup—275,000—$44,880
Cylinder—10,000—$217,950
Repair kit—75,000—$315,150
Springs—22,995—$63,853
Nuts, cam, shoe, lining, etc.—24,000—$27,402
Line, bolt—$70,910
Heads, lines, hose—16,100—$86,523
Union, washer—22,665—$57,699
Cups, cylinders—33,200—$33,599

Ward LaFrance Trk. Corp., Elmira, N. Y.
Retainer & axles—320—$203,762
Cab—200—$117,805
Radiator assy.—385—$41,546
Axle, differential, etc.—12,602—$206,149
Shafts—6,039—$26,136
Engine—368—$659,025
Engine water pump, pressure plate, etc.—1,640—$29,229
Shock absorber—5,644—$102,156
Housing yoke—2,800—$29,153
Clutch rep. kit—5,000—$57,550
Flange, gear, pinion, etc.—4,609—$41,216
Sleeve, disk—3,314—$53,924
Axle—280—$305,652
Pressure plate—1,000—$45,000
Handle, wiring kit, etc.—3,611—$38,268
Plugs, races, etc.—115,476—$216,165
Slip joint—1,895—$47,829
Shaft cover—$137,013
Tractor truck—3—$25,770
Repair kit for fuel pump—$52,843

Watson Automotive Equip. Co., Washington, D. C.
Automobile, ambulance—34—$153,463

Waukesha Mtr., Waukesha, Wisc.
Bearings, bushings, etc.—213,912—$138,856
Valves, washers—56,573—$87,427
Misc. gaskets—54,344—$23,884

White Motor Co., Cleveland
Steering tube end—6,000—$30,232
Lifters, pipes, tubes, valves—2,635—$40,-030
Wire—98,715—$31,643

Willard Storage Battery Co., Cleveland
Batteries—25,000—$895,150
Storage batteries—5,216—$194,608
Batteries (dry)—3,393—$37,652
Batteries—5,575—$189,834
Batteries—54,000—$2,187,060

Willys-Overland Motors, Toledo, Ohio
Rod, shaft, shifter, bracket—4,300—$43,588
Disk, plate—10,000—$34,190
Kits—10,000—$59,800
Kits, pulleys, bushings, etc.—46,250—$28,-549
Seat assy.—2,000—$29,260
Truck—218—$266,303
Bushing—$70,576
Truck—688—$1,076,862
Axle, gears, bearing—4,910—$703,566
Cone, screw, cup, pin, etc.—137,227—$207,-855
Transfer case—1,000—$95,490
Propeller shaft—5,500—$54,450
Top cover—70,200—$99,818
Axle shaft—30,500—$129,035
Top cover—26,500—$60,620
Exhaust pipe, plate assy., etc.—67,000—$61,660
Connecting rod—16,700—$41,082
Steering wheel—15,000—$30,450
Trucks—$1,076,862
Levers, bearings, caps—41,480—$1,041,217
Shield, bracket—$61,754
Water pump—47,000—$77,170
Bolt, shaft, etc.—15,121—$84,210
Bell crank, gear—39,959—$189,054
Covers, pumps, kits, etc.—17,560—$26,407
Utility truck—13,763—$33,463,934
Engine assy.—20,730—$5,665,700
Ring—$163,610
Spring, bracket—69,220—$28,767
Shafts, gears, etc.—281,500—$165,389
Pulley—35,000—$34,300

Yale & Towne Mfg. Co., Stamford, Conn.
Parts for fuel servicing trailers—$32,151

Zenith Carburetor Div., Bendix Aviation Corp., Detroit
Kit—47,950—$65,861
Gasket—48,320—$76,779
Carburetor—$41,696
Filter, washers—12,317—$25,667

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with the ONE and ONLY
TRADE PRO-TEX-TIRE MARK
L-E-N-G-T-H-E-N-S TIRE LIFE
Natural or Synthetic
Greatly reduces internal heat — the number one enemy of tire life. Contributes to safety through diminishing blow-out hazards.
NON-TOXIC and SAFE
Effective in all Temperatures
Absolutely harmless to Personnel and Equipment
Lessens creep and slippage 'twixt tube and tire. Eliminates rim rust for in-a-jiffy changing.
MAKES TIRES LAST LONGER
Effective on used and new tires and tubes
Aids Recapping
TO SAVE YOUR RUBBER—
and Multiply Your Tire Dollars—
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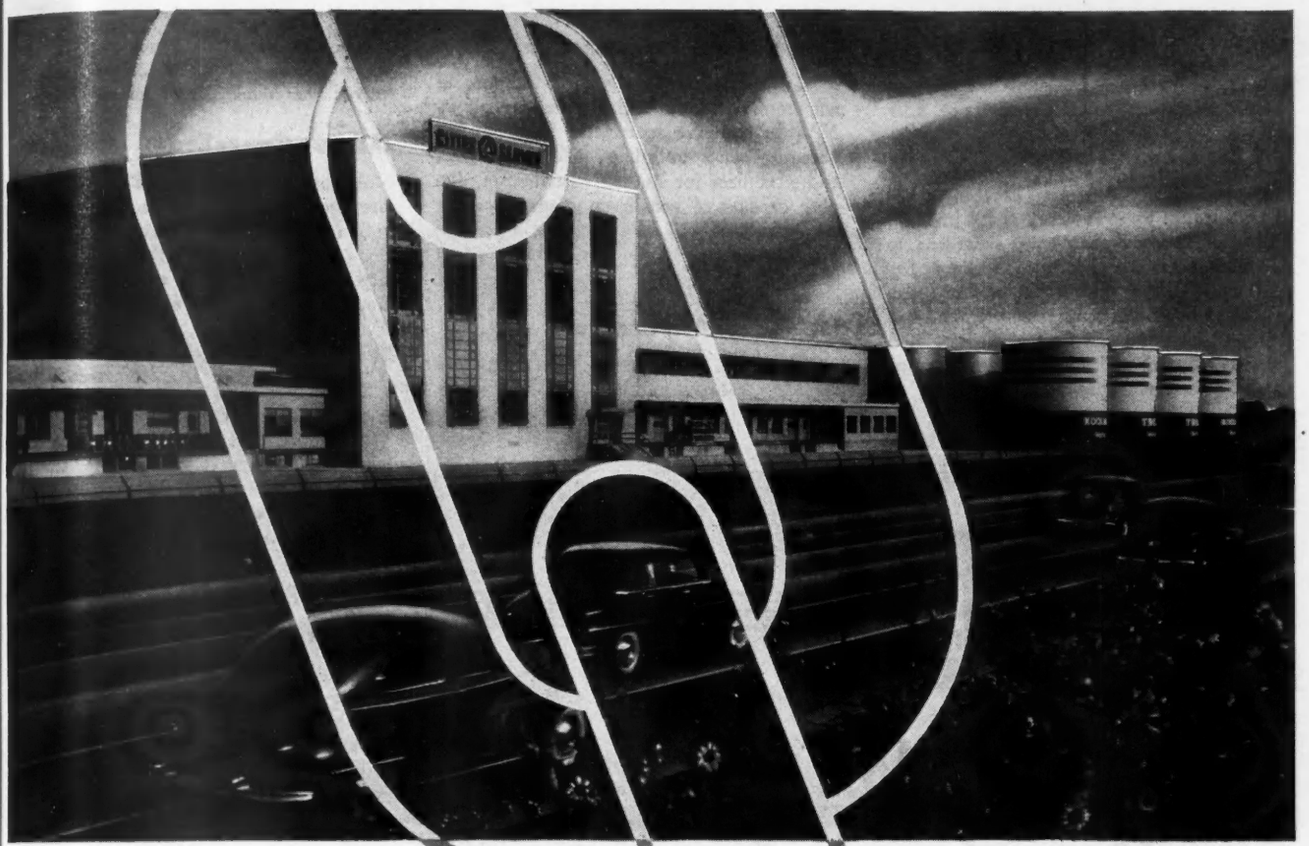


Cities Service Terminal & Compounding plant, Chicago, Illinois

Newest link of PROGRESS

NOW!...The *newest...finest...* *most modern* plant for compounding and packaging lubricating oils

Month by month you see the proof piling up of still more Cities Service growth... strength . . . progressiveness. Now the latest Cities Service facilities have been added in Chicago's Cicero district. Here a completely modern 25-million-gallon plant is in full operation today, to serve you with lubricants of characteristic Cities Service quality.

The size of this complete plant...its rail and water transport advantages...and the excellence of its output signify the progress Cities Service is attaining throughout its marketing area. Cities Service has been progressive and will remain so, always striving to provide its dealers...its customers...with the finest petroleum products made.

CITIES SERVICE

CCJ Reports

Continued from Page 256

OK On Liquor Tankers

Bonded spirits may now be transported in tank trucks upon showing of the unavailability of railroad tank cars, according to an announcements by the Treasury Department. Rigid tank construction specifications are set forth in the order and numerous forms and certificates must be filed with the Bureau of Internal Revenue, prior to and after the transportation.

Commercial Building Cut

New construction on a large number of commercial buildings has been banned by NPA to conserve materials. Included are garages, office buildings, service stations and structures for storage, distribution, display or sale of consumer goods. Specific authorizations will be issued for all building needed in the defense mobilization program.

Mack Training Program

More than 1400 persons have completed the shop courses in diesel engine maintenance given by Mack Trucks, Inc., at 17 of its branches. Over 29 centers have received the Mack Diesel lecture courses.

Merger Cancelled

Announcement has been made that the proposed merger of Perfect Circle Corporation into Thompson Products, Inc., will not be completed. The Department of Justice advised that in its opinion the merger would be in violation of the anti-trust law.

Wisconsin Spends More

The spending for roads, streets and highways in Wisconsin this year will exceed $100 million. At present, the State Highway Commission is engaged in studying winter driving along with other public officials, traffic engineers and representatives of the auto and trucking industries.

Gate Opener

Five high-powered spotlights, with allied electrical equipment, are employed at the Detroit terminal of the Greyhound Bus Company for opening and closing gates through which buses enter and leave the downtown depot. The spotlights, equipped with a narrow-beam lens, operate photo-electric cell units which in turn activate the gate equipment.

Sales Dept. Enlarged

George H. Gruenwald has been named manager of the Merchandising Aids department at Willys-Overland Motors, Inc. The newly-created department will co-ordinate the preparation and completion of all sales materials, and promotional activities at Willys.

Lease Approved

Roadway Express, Inc., of Akron, Ohio, and Shippers Freight Forwarding Co., a subsidiary, have been granted authority by ICC to lease certain operating rights of Bridgeways, Inc., for six months. An application also is on file with ICC to make the rights permanent. In addition to the operating rights, Roadway will take over Bridgeway terminals at Muskegon, Kalamazoo, Saginaw, and Grand Rapids, Mich.; Lima and Dayton, Ohio; Milwaukee; Evansville, Ind.; Louisville, Ky., and Pittsburgh. Shippers Freight Forwarding Co. will take over the Bridgeway terminals at Erie, Pa., and Buffalo, Rochester and Syracuse, N. Y. About 500 highway trailers also are included in the lease.

Gasoline Tax Hikes

Sixteen state legislatures and the U. S. Congress are currently considering motor fuel tax increases, a survey made by the National Highway Users Conference reveals. The uncertain outlook for highway construction and the impact of proposed Federal tax increases have suggested to many highway user groups the need for careful examination of proposed state increases.

(TURN TO PAGE 320, PLEASE)

DELBAR

The Safest, Most Outstanding Mirror Line in America

SAFETY for passengers, payload, and drivers is extremely important to truck and bus Fleet Operators.

One of the biggest SAFETY factors is the ability of the driver at all times to see clearly what is going on behind him—both near and far. DELBAR MIRRORS provide this SAFETY.

Every DELBAR MIRROR is specially engineered to give drivers maximum visibility under today's driving conditions. Each mirror is developed to solve actual driving problems through the cooperation of fleet operators and our engineers.

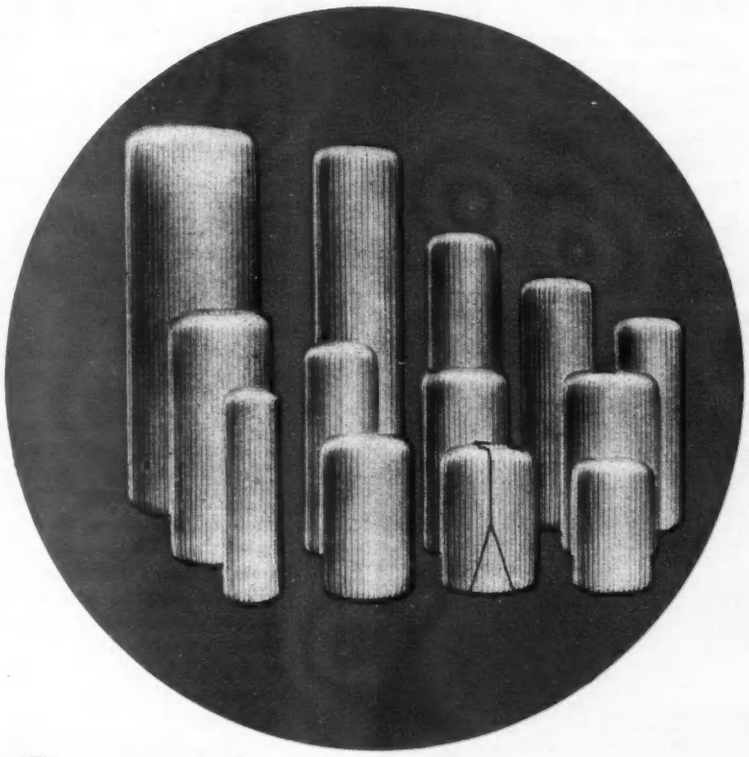
In addition DELBAR MIRRORS are practically indestructible, because of exclusive construction features, and their mirror surfaces are 100% guaranteed.

DELBAR MIRRORS come in a complete range of styles and sizes—round, oblong—for trucks and buses.

If you or your drivers have not tried DELBAR MIRRORS *see your Jobber today.*

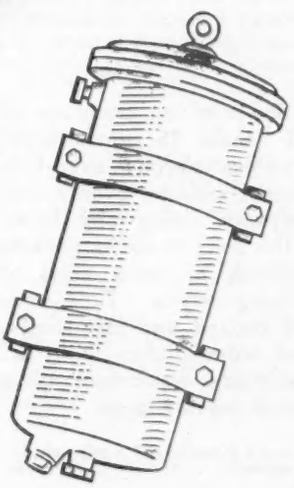
DELBAR PRODUCTS, Inc.
Perkasie, Pennsylvania

DELBAR — THE QUALITY LINE — MIRRORS • LAMPS • REFLECTORS



there's a WINSLOW ELEMENT for any FILTER*

More and more, as the national emergency makes it imperative that you protect your engines against the danger of being unable to replace or repair them, your maintenance program must provide for dependable filtration of fuels and lubricants. The urgency of your need makes it doubly worth your while to remember that Winslow manufactures over 200 sizes and shapes of fine elements. There's a Winslow Element for any make or model of filter that you may own!



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CCJ Reports

Continued from Page 318

The U. S. Congress' tax committees are studying Treasury Secretary Snyder's proposal to double the Federal gasoline tax to 3¢ per gallon. States considering increases are:

	Present Tax	Proposed Rate
Arkansas	6½¢	8½¢
California	4½¢	5½¢ or 6½¢
Colorado	6¢	7¢
Illinois	3¢	4¢ or 5¢
Indiana	4¢	6¢
Massachusetts	3¢	4½¢
Michigan	3¢	5¢
Missouri	2¢	3¢
Nebraska	5¢	6¢
North Dakota	4¢	5¢ or 6¢
Ohio	4¢	5¢
Oklahoma	6.58¢	7.58¢
South Dakota	4¢	5¢
Utah	4¢	6¢
West Virginia	5¢	6¢
Wyoming	4¢	5¢

Safety Contest

A national contest for truck fleet safety directors has been announced by the Safety Department of the American Trucking Associations, Inc.

Three merchandise prizes will be awarded in the contest, based upon the best letters describing individual efforts in promoting the ATA Sights-On-Safety campaign. The safety directors submitting letters to the contest judges must have charge of their company's activities in the Sights-On-Safety campaign.

Merchandise awarded in the contest may be selected from the catalog of Cappel, MacDonald Company on the following basis: first prize, 20,000 points; second prize, 12,000 points; and third prize, 8,000 points.

Lettters entered in the contest are limited to 750 words and must be postmarked not later than April 16, 1951. The letters also should:

1. Indicate the type of operation of the carrier.
2. Describe how the SOS plan was set up and administered, and how the idea was sold to the drivers.
3. Outline the cost of operating the plan.
4. Report accident rates and insurance costs before and after establishment of the plan.
5. Estimate the annual savings the plan has provided for the company.

The judging will be by a panel selected by ATA's Department of Safety. Winners are to be announced at the Spring meeting of the ATA Council of Safety Supervisors in San Francisco, May 18.

Entries must be submitted to the SOS Contest, Department of Safety, American Trucking Associations, Inc., 1424 Sixteenth Street, Washington 6, D. C. All entries become the property of ATA and Cappel, MacDonald Co.

Trucks Save Forests

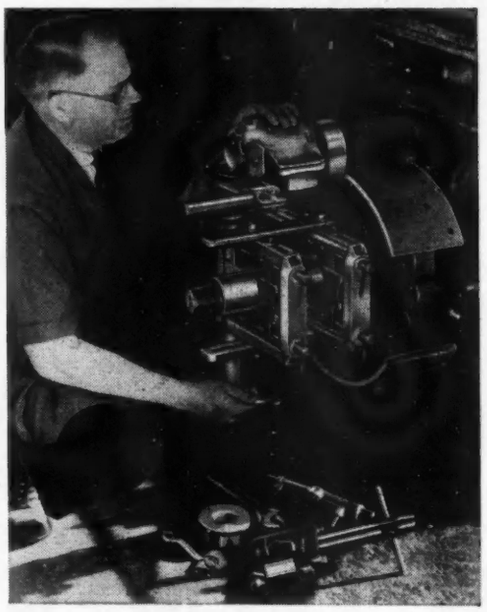
How improved motor truck transportation and better road facilities have led to sound logging conservation practices, was keynoted by Merrill C. Horine, Mack Motor Truck Corporation executive, in a recent technical paper prepared for the British Columbia Section of the Society of Automotive Engineers.

"The use of rubber-tired transportation," said Horine, manager of Mack's Sales Training Division and a prominent S. A. E. member, "has contributed more toward the successful transition from the despoilation of our forests to present-day selective logging than any other item of equipment. Logging has ceased to be a wasteful, itinerant battle against nature and has become a stable, perpetual and constructive

(TURN TO PAGE 322, PLEASE)

Travel MORE Miles

with smooth, safe-acting brakes . . . properly installed with



THOMASON *Model 45* BRAKE SHOE GRINDER

We are again entering a time in our history when the bus and truck industry faces a tremendous responsibility . . . transporting more and more materials and taking more workers to and from their jobs . . . when men will be called upon to work longer hours, and equipment to last years longer.

The fine-precision accuracy of the S-T Model 45 grinds brake lining to close tolerance everytime . . . assures uniform, overall contact between lining and brake drum. This uniform contact results in thousands of extra miles of brake lining service. Tires wear even all around and last longer. Precision workmanship with S-T precision-made equipment gives economical performance.

Tops for speed and accuracy, the Model 45 works from either straight or tapered axles or steering spindle, and will accommodate drums from 9" to 21½" in diameter.

See your local jobber for complete information. If he is unable to supply you, clip the coupon below and send to the factory.

Every piece of S-T equipment is thoroughly inspected and tested before delivery . . . *it's the finest brake lining equipment in the world.*

Shepard-Thomason Co.
Please send complete information on the Model 45 grinder, including prices in my area.

NAME .....

ADDRESS .....

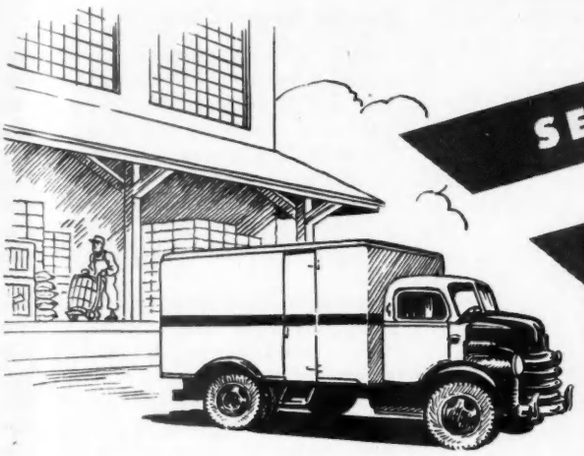
CITY .....STATE.....

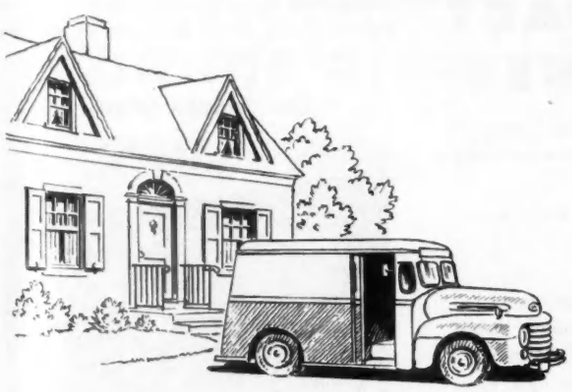
SHEPARD-THOMASON CO.
2023 West Gage Avenue
Los Angeles 44, California

"The job is OK . . . It's the uniforms I object to.

YORK-HOOVER BODIES

SERVE YOU BETTER . . . AND LONGER





HERE'S HOW

First, because York-Hoover Bodies are "job built." They're designed for your specific job. Second, because York-Hoover Bodies are made from the highest quality materials available. This means that when you equip your trucks with York-Hoover Bodies, both maintenance and operating costs are low . . . performance is high.

HERE'S WHY

Year after year, for over 50 years, York-Hoover customers have continued to place their confidence in our engineering and craftsmanship. To justify this confidence, York-Hoover "job built" bodies have maintained a high record of quality, performance and cost-saving efficiency. This is our contribution to the truck industry.

During the present period of National Emergency, York-Hoover's production facilities are taxed to the extent that deliveries cannot be made as quickly as normally.

We suggest that you contact us concerning your body transportation problems. We'll be glad to provide you with all the facts in detail, including earliest possible delivery dates.

York-Hoover Corporation
YORK, PENNSYLVANIA
Body Division

CCJ Reports

Continued from Page 320

part of our economy." Three major factors in the development and adoption of the motor truck to meet logging needs were stressed by Horine.

First, the development of specially built off-highway type trucks which exceed the limitations of legal width and weights for regular highway use. In many cases log operators have found it economical to construct and maintain private roads.

Second, the development of cheaper fuels. Horine cited the economies offered by the use of diesel fuel through its higher thermal efficiency, whereby the miles and hours of operation per gallon are bettered by from 50 to 75 per cent. With diesel oil, he said it is feasible to provide tank capacity on the vehicle for a full day's run.

Third, the development of a combination of the 10-speed duplex transmission with the 3-speed auxiliary. This combination affords 30 shift postions of which 14 or 15 are usable.

ATA Executive Appointed

Charles B. Cunningham, newly appointed member of the field public relations staff of the American Trucking Associations, Inc. has established headquarters in the building of the Central Motor Freight Association in Chicago. Cunningham assists with ATA and state association activities in public relations throughout the middle-West.

Deaths Near Million

The fast pace towards the millionth traffic death since 1900 was speeded up last year by increases in fatalities in 43 states and the District of Columbia—the largest number to report an upward trend since 1946—while only five states held street and highway deaths below their 1949 tolls, a survey by the Association of Casualty and Surety Companies disclosed today.

Noting that this group of 43 states was more than three times greater than the number which reported bigger death tolls a year ago, the Association's accident prevention department warned that "a tragic trend to more fatalities in all but a few states threatens to eclipse new gains in highway safety in 1951."

Unless most states reverse the trend this year, declared Thomas N. Boate, the Association's director of public safety, "Victim X"—the millionth traffic fatality—will be killed in about ten months. Auto deaths since 1900 now total about 968,000, he said.

Only 14 states reported greater traffic fatalities for the year 1949, Mr. Boate pointed out. A year ago 32 states boasted fewer deaths in 1949, nearly seven times the roster of "honor states" for 1950. In 1948, 23 states had fewer deaths; in 1947 there were 31, and in 1946—the first full year of unrestricted motor travel following World War II—there were two. Twenty-one states reported more deaths in 1948, he said, 17 in 1947 and 45 in 1946.

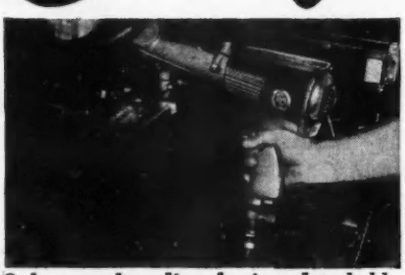
(TURN TO PAGE 324, PLEASE)

The Second Oldest

The South Tacoma Motor Co., has serviced this 1919 Chevrolet truck for almost 30 years. The veteran owner, Herbert M. Waters, sold the vehicle to the dealership reluctantly and only because his age of 86 barred the renewal of his driver's license. A check of Chevrolet records shows the Waters vehicle finished second in an oldest-truck-in-service contest four years ago. It was nosed out by a Jordan, Mont., Chevrolet truck of 1918, first year of Chevrolet truck production

Note short, compact design of wrenches when readily detachable angle heads are removed.

3 major advantages of CP AIR IMPACT WRENCHES



Only complete line having detachable angle heads for close-quarter work.

- Controllable power assures running nuts and cap screws to correct, uniform tightness.
- Angle heads—detachable—make it easy to reach awkwardly located nuts and bolts.
- These advantages plus the powerful impact action of these wrenches, means big savings in hours—and dollars.

Capacities: CP-730 to ½" bolt size; CP-750 to ⅝" bolt size; CP-770 to 1" bolt size—all with detachable angle heads.

For heavier jobs on trucks and trailers, CP-365, capacity to 1¼" bolt size, is available in straight or angle head models.

Tightening U-bolts is a matter of seconds with CP-770—good preventive maintenance.

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

Every minute sees money saved

on the great high-mileage fleets!

The savings jump from the record books!

THE RAYMASTER ROLL CALL! The big volume users of the great RAYMASTER are the long-haul, high-speed truckers of America. The list reads like the BLUE BOOK of trucking quality and authority.

THE ROLL CALL RECORD! Go down the list of these great long-distance truckers and you know the kind of books they keep, the kind of cost accounting that keeps them in business at a profit. It's this exact cost keeping that tells the whole story of Raymaster MILEAGE, ECONOMY AND ENDURANCE. Let us show you how these vast savings *jump* from the record books.

THE ROLL CALL REASONS! DEEPER anti-skid—THICKER undertread—SPECIAL and EXCLUSIVE TREAD COMPOUNDS—EXCLUSIVE crack-resistant groove treatment—DOUBLE shock-pads of safety-bonded cords, permitting MULTIPLE RECAPPING. *The Only Such Tires in the World.*

A PHONE CALL DOES IT!

—to your nearest U. S. ROYAL DEALER
(He's listed in the Classified Telephone Directory)

He will make an "on-the-spot" tire survey of every piece of equipment you operate. He will render a complete detailed report to you—clearly defining the condition and carefully estimating the life expectancy of each of your tires. He will outline recommendations which will *save you money*, keep you rolling in security through the years ahead!

UNITED STATES RUBBER COMPANY

GUN IRON* BRAKE DRUMS

LAST more than TWICE as long

*New high-carbon alloy of Gun Iron developed expressly to minimize heat-checking and squeal. Proved to give even longer life than previous Gun Iron Drums, the original cast brake drums.

IN INDEPENDENT TEST!

Gulf Transport Reports:

"Results of tests using Hunt-Spiller Gun Iron Brake Drums have been very satisfactory and we are taking steps to standardize on them. The most we have been able to get from other rear drums was about 90,000 miles before turning. One set of Hunt-Spiller rear drums went 125,000 miles before turning, and after turning, have been operated 90,000 miles and is still going strong. A set of Hunt-Spiller front drums is still in service after 199,000 miles without turning. The value in savings in labor, replacement costs and road time lost to our fleet are obvious."

This is typical of the reports coming in from truck and bus fleets all over the country. In addition to increased wear life, heat checking and squeal are virtually eliminated in these great new H-S drums. And since Gun Iron has a very low coefficient of expansion, "fade" is reduced to a minimum. Why not get in on these proven savings yourself? Our representative will gladly give you all the facts. Built to original equipment specifications for most buses and trucks; fully guaranteed.

SEND FOR FREE BULLETIN

This bulletin gives the whole story on Gun Iron Brake Drums. It also contains actual proof of their economies on buses and trucks.

HUNT • SPILLER

MANUFACTURING CORPORATION

AUTOMOTIVE DIVISION

399 DORCHESTER AVENUE • SOUTH BOSTON 27, MASS.

CCJ Reports

Continued from Page 322

Fleet Maintenance Course

New York University will offer its first annual course for Motor Vehicle Maintenance Supervisors from May 7 to 11. This course is designed for fleet maintenance supervisors, shop foremen, inspectors, and maintenance engineers for insurance companies, training directors and executives related to the problems of efficient fleet operation.

The course is under the direct supervision of the Center for Safety Education, division of General Education, New York University. Speakers in the various aspects of preventive maintenance will conduct the course. It has for its objective a practical and timely program of instructions leading to higher dependability and performance.

Detailed information concerning the course can be had by contacting the Center for Safety Education, New York University, Washington Square, New York 3, N. Y.

Funds for New Roads

An ammendment to the state constitution of Georgia has been passed by both houses of the state legislature. The ammendment says that diversion of highway funds for other purposes is now prohibited. This may make additional funds available in that state for road improvement projects.

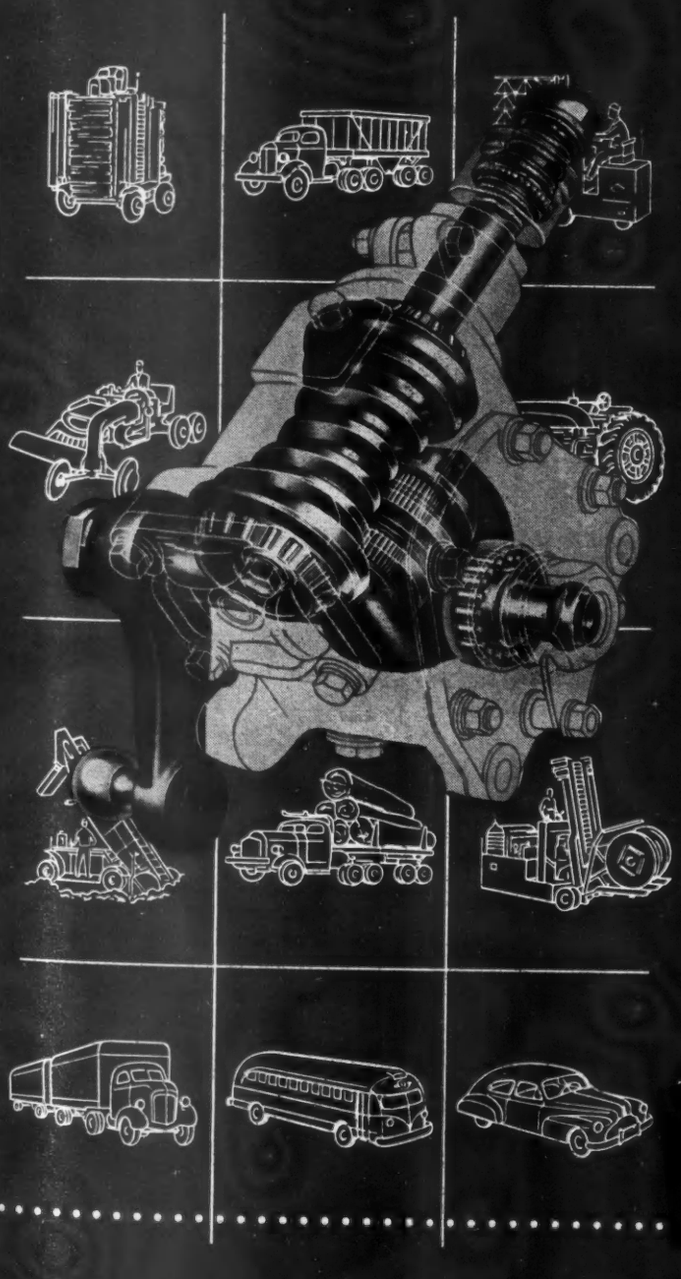
The measure also provides that in the event of a war or other serious material shortages which would prevent the use of these funds for highway purposes, the money is to be invested in U. S. Bonds. The funds may be used for other than highway purposes only if there is an actual enemy invasion of the state.

A similar ammendement proposed in Montana was defeated by only four votes needed for a two-third majority.

(TURN TO PAGE 326, PLEASE)

"He wants a fifth of oil."

Gemmer Easy Steering



Gemmer Has Been Making
Steering Gears for Motor Vehicles
for 43 Years

CCJ Reports

Continued from Page 324

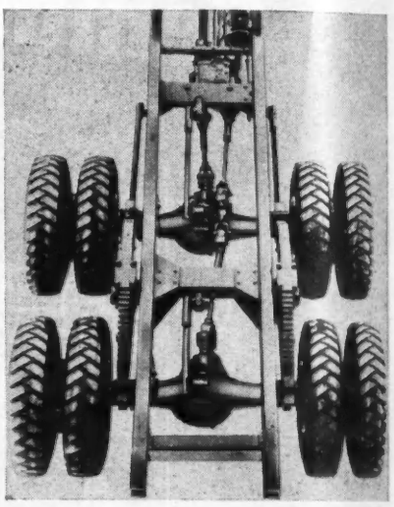
Service Training Expanded

A greatly expanded Ford service training program—aimed at helping to keep the nation's 47,000,000 cars and trucks rolling and to conserve manpower and critical materials—has been established by the Ford Division of Ford Motor Company. Thirty permanent Ford service training schools have been set up to assist thousands of mechanics in 6,400 Ford dealerships.

Each of the new service training schools has a permanent staff trained to conduct classes for mechanics in the complete servicing of Ford cars and trucks. There are 33 instructors specializing on Fordomatic drive. In addition, 38 others regularly teach mechanics all other phases of Ford service. All 71 instructors are factory personnel. At the beginning of the automatic transmission program, carefully selected instructors were given training to qualify them for teaching. These men later set up district schools. They have been provided with training films, charts and manuals, motor analysis equipment, tools, transmissions and a training car.

Baumis and Truckstell Merge

A merger of Baumis Mfg. Corp. of Townsend, Mass., with Truckstell Mfg. Co. of Cleveland was recently announced. The manufacturing details have been arranged and production of Baumis dual-axle truck drives will continue. The Baumis dual-axle drive can be used to convert any standard, medium, or light-heavy two-axle truck into a "10-wheeler" with two rear driving axles. This conversion doubles the load-carrying capacity, the announcement stated.



Production of the Baumis drive will continue in the Massachusetts plant. Plans for production and sales expansion have been charted and approved.

Sun Executive Appointed

Frederick B. Hufnagel, Jr. has been appointed assistant to H. R. Anders, director of purchases, Sun Oil Co. Mr. Hufnagel has been relieved of his duties as assistant coordinator in the marketing department for the duration of the current emergency. He will devote his time to representing Sun Oil Co. with government agencies in the administration of regulations controlling materials and their supply, as they effect all departments of the company.

(TURN TO PAGE 328, PLEASE)

AHLBERG BEARINGS Have Played
A Conspicuous Part In Motordom SINCE 1908

Remember the sleek open jobs of motordom's younger days . . . and how often they were laid up for weeks on end—waiting for foreign-made replacement bearings? That's when and why Ahlberg came into the automotive picture—came to the repairman's rescue, so-to-speak, with domestic-made replacement bearings that were soon to be made immediately available from AHLBERG branches throughout the country.

Through the 42 intervening years the name Ahlberg has become the maintenance man's best friend in replacement bearings—for availability, completeness of types and dependable performance.

How about YOUR ball bearing replacement needs? If you're looking for ways to squeeze more trouble free mileage out of automotive maintenance dollars . look into Ahlberg's line—the all-purpose replacement ball bearing line for cars, trucks, busses and tractors. Write for Catalog and Application Manual.

AHLBERG BEARING COMPANY, 3025 West 47th Street, Chicago 32, Illinois
Precision Craftsmen Since 1908

Right Again

CATTY CORA, OUR OFFICE CUT UP, SAYS THAT A YOUNG MAN WHO IS ALL FEET ON THE DANCE FLOOR IS USUALLY ALL HANDS WHEN HE GETS YOU IN A CAR.

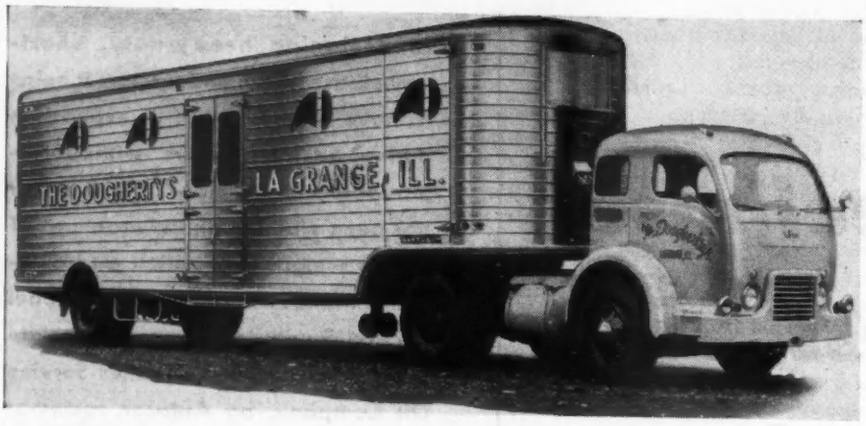
Short-wheelbase handiness . . . Autocar's specialty always

In designing heavy-duty, short-wheelbase trucks and tractors it helps to have a background of experience dating back 40 years without interruption—that's how long Autocar has been working on the problems of proper weight distribution and complete maneuverability. This Model U-7064-S with tandem axle is a late addition to the fleet of Cities Service Oil Company, an Autocar customer for many years. Short turning-radius, easy parking, and efficient axle loading with a 2,900-gallon weight are only some of its advantages. In addition, it has heavy-duty construction —a feature that means dependability and long life at low cost per ton-mile.

AUTOCAR TRUCKS

1 . . . Haul big loads
2 . . . Control the load
3 . . . Are strong all over
4 . . . Are dependable
5 . . . Are economical
6 . . . Make man-hours productive
7 . . . Keep pace with traffic
8 . . . Are virtually custom built
9 . . . Have extra power when needed
10 . . . Are long-lived

The Autocar Company, Ardmore, Pa. • Established 1897 • Factory Branches and Distributors from Coast to Coast



Everything the Auto Industry needs

in LAMPS

Quality TUNG-SOL Lamps are engineered to the highest standards of automotive requirements.

Quantity TUNG-SOL production assures delivery of manufacturers' lamp requirements on schedule.

Performance TUNG-SOL statistical quality control maintains maximum uniformity and dependability.

Service TUNG-SOL national distribution makes a complete line of auto lamp replacements available everywhere.

TUNG-SOL
AUTO LAMPS & SIGNAL FLASHERS

TUNG-SOL LAMP WORKS INC., Newark 4, N. J. • Sales Offices: Atlanta
Chicago • Dallas • Denver • Detroit • Los Angeles • Newark • Philadelphia

CCJ Reports

Continued from Page 326

For Prize-Winning Horses

Something ultra-modern in horse vans has been built by Bartlett Trailer Corp. While this is not a stock item, it was designed to meet the most exacting requirements of a show-horse owner of international reputation.

Its interior details include from four to eight compartments, each planned to utilize all available space. The front compartment carries the harness, the rear carries the carriage equipment. The center section will carry either eight ponies of from four to six horses through an adjustable stall arrangement.

The interior of the stalls are upholstered in plastic leather with removable floor mats. A living quarters for the driver and groom also is provided in the front section. Fittings are chrome plate and the body structure of aluminum.

Ton-Mile Roundup

Imposition or amendment of mileage taxes on private and for-hire highway carriers is being considered by twelve state legislatures this year, according to a survey made by the National Highway Users Conference. At least twelve other states are considering major changes in their vehicle registration taxes.

After strong gubernatorial pressure, New York enacted a ton-mile tax on vehicles over 18,000 lbs. gross weight at rates ranging from 6 to 24 mills per mile; buses, road construction machinery and well drillers are exempted. A new Idaho law imposes mileage taxes on buses, trailers and diesel-propelled vehicles and trucks over 26,000 lbs. gross weight.

In addition to these two states, legislative action on mileage taxes is pending in California, Colorado, Maryland, Missouri, Nebraska, Ohio, Oregon, West Virginia and Wisconsin. A bill in Montana imposing mileage taxes was killed in the house of origin, and a measure in Wyoming, amending the mileage tax rates on trailers, was killed in the Senate following House passage. If the proposal in Nebraska is successful, all vehicles subject to the tax will be equipped with hub meters to compute mileage travelled. A resolution introduced in Arkansas, asked for imposition of ton-mile taxes on trucks, and the Governor of Tennessee has recommended that vehicles exceeding weight limits be subjected to ton-mile taxes.

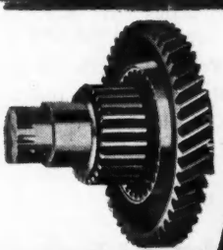
(TURN TO PAGE 330, PLEASE)

the Magic
SPICER BROWN-LIPE SYNCHRO-SHIFTER

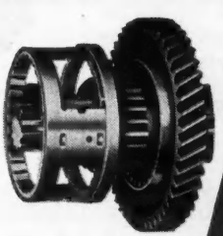
puts more productive horsepower into driving wheels!

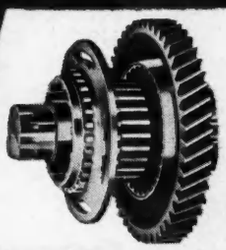
HOW IT WORKS

1 The gear on the main shaft free-wheels until needed, but is always in mesh with the gear train. The main shaft is directly connected to the rear end, and revolves at a speed proportional to the road speed of the vehicle.

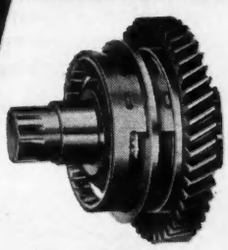


2 The gear is brought to shaft speed (synchronizing it) by pressing a special bronze cone against the mating cone on the side of the gear. This bronze cone is part of a sleeve which is held on the shaft by the shifter gear, being free enough to rock through a small angle.





3 When the gear is synchronized with the shaft, the shift is made by engaging the shifter clutch, which is shown here. Since the gear is now standing still as far as the shifter-clutch is concerned, the teeth are easily pushed into mesh.



4 Sliding shifter clutch (view 3) forces sleeve (view 2) to move ahead of it, under spring pressure. Cone friction turns sleeve, sleeve traps posts on shifter clutch. Force on shift clutch passes directly to friction cone. Shifter clutch is then held until cone no longer exerts turning force on sleeve, after which shifter clutch slides into tooth engagement.

47 YEARS OF Spicer SERVICE

SPICER MANUFACTURING • *Division of Dana Corporation*
TOLEDO 1, OHIO

TRANSMISSIONS • CLUTCHES • PARISH FRAMES • POWER TAKE-OFFS • PROPELLER SHAFTS • SPICER "BROWN-LIPE" GEAR BOXES
STAMPINGS • FORGINGS • TORQUE CONVERTERS • PASSENGER CAR AXLES • UNIVERSAL JOINTS • RAILWAY GENERATOR DRIVES

SERVICE "KNOW-HOW"

Every Champ-Items part has been designed to meet a definite service need. Champ-Items has it. Service "Know-How" that means each part is engineered for Easier Service—Better Performance—Driving Safety. TIME SAVERS—MONEY MAKERS for every shop.

No. 478
WINDOW CHANNEL SHIM

For All Cars and Trucks

Eliminates the rattle of windows due to excessive wear of original channel felt causing glass to contact the metal. It is installed between the edge of glass and old channel through the entire length of the window. Eliminates all rattles regardless of what position the window is in.

List .60 Each

More than 200 automotive replacement parts featured in Champ-Items catalog—write on your letterhead for a copy. Every up-to-date shop should have one.

ORDER FROM YOUR JOBBER

CHAMP-ITEMS, INC.
6191 Maple Ave., St. Louis 14, Mo.

CCJ Reports

Continued from Page 328

Cummins Executives Meet

Regional Managers of Cummins Engine Company, Inc., Columbus, Ind., held a three-day meeting early in March at Indianapolis, Ind. The managers of the nine regional offices and factory sales executive personnel met to discuss the Cummins selling program. One of the most important topics was Cummins' role in the nation's mobilization program.

Safety Agenda Announced

Highway safety, civil defense and a wide range of automotive maintenance problems will be discussed by leading experts in those fields during the Spring meetings of the Safety Supervisors, Equipment and Maintenance, and Terminal Operations Councils of the American Trucking Associations, Inc., at San Francisco.

More than 400 safety maintenance and operations officials of the trucking industry are expected to attend the five-day meeting from May 14 to 19.

Autocar Cites Improvement

Great improvement in the condition and outlook of The Autocar Company, Ardmore, Penna., is revealed in the annual report for 1950. The report includes sales and profit figures for 1950 previously released: Sales of $28,110,742 (compared with $22,250,078 for 1949) and net profits of $491,358. The report said that the design and construction of Autocar's new "Driver" cab, introduced last Spring, was an important factor in the demand for Autocar trucks and tractors.

Congressional Statements Made

In a recent hearing before the Ways and Means Committee of the House of Representatives, officials of the American Trucking Association and

(TURN TO PAGE 332, PLEASE)

"Hop in!"

HEAVY DUTY TRUCKS
SINCE 1907

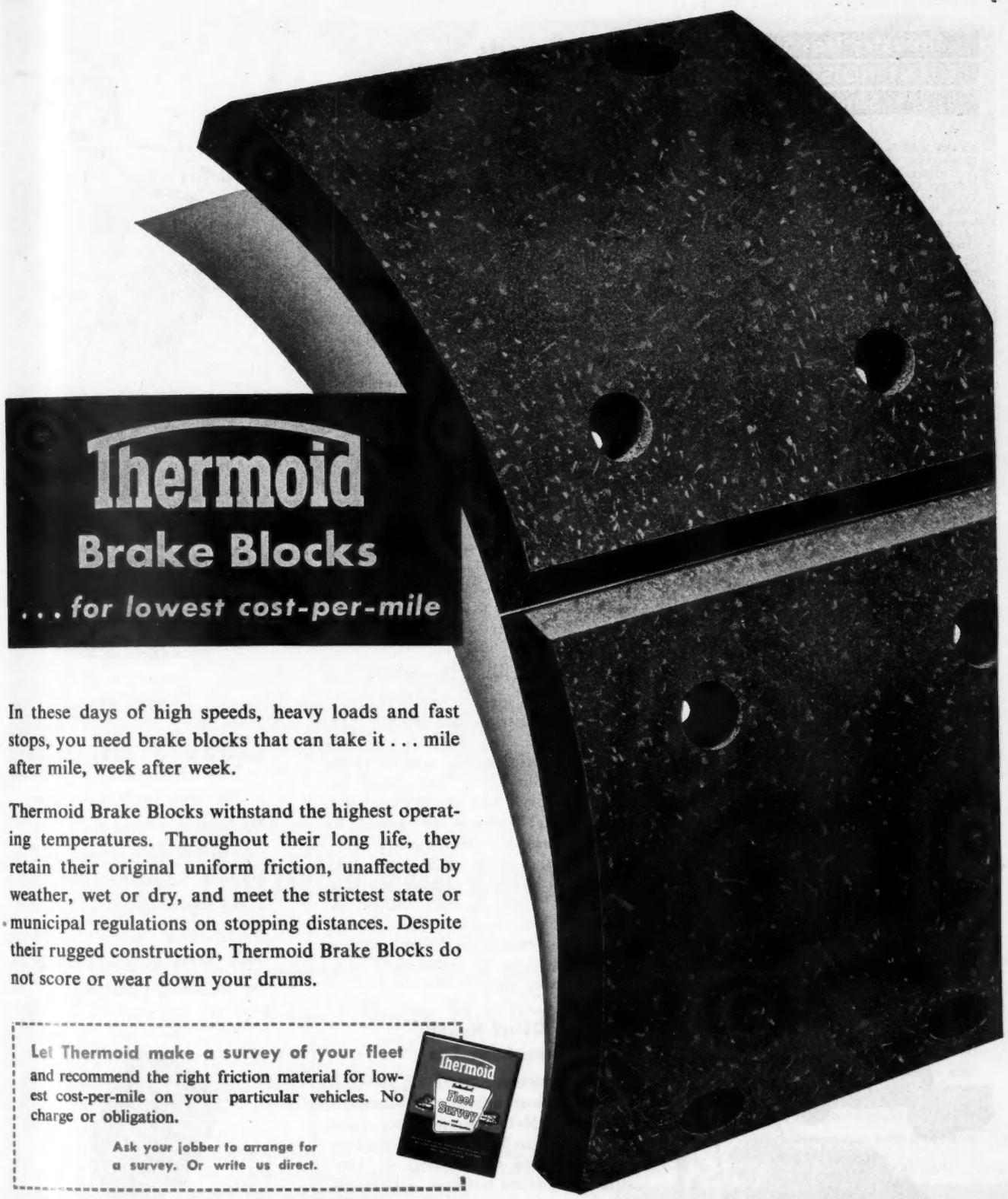
DUPLEX

TRUCK COMPANY
LANSING, MICH.

HIGHWAY AND CONSTRUCTION TRUCKS

●

SPECIAL PURPOSE CHASSIS



Thermoid
Brake Blocks
. . . for lowest cost-per-mile

In these days of high speeds, heavy loads and fast stops, you need brake blocks that can take it . . . mile after mile, week after week.

Thermoid Brake Blocks withstand the highest operating temperatures. Throughout their long life, they retain their original uniform friction, unaffected by weather, wet or dry, and meet the strictest state or municipal regulations on stopping distances. Despite their rugged construction, Thermoid Brake Blocks do not score or wear down your drums.

Let Thermoid make a survey of your fleet and recommend the right friction material for lowest cost-per-mile on your particular vehicles. No charge or obligation.

Ask your jobber to arrange for a survey. Or write us direct.

Thermoid

the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.

Thermoid Company • Trenton, New Jersey

Industry Has Specified
SILENT HOIST Equipment
• Since 1918 •

KRANE KAR Swing Boom Mobile Crane: for materials-handling . . . lifting, transporting, positioning, gasoline or Diesel, 1½, 2½, 5 and 10 ton capacities, 9 to 37 ft. booms (or telescopic booms), solid or pneumatic tires. Self-stabilizing without jacks or outriggers; unobstructed vision; fast, flexible, safe, easy to operate.

WINCHES: Capstans; Single and Double Drum, Jaw Clutch, Keyed and Friction Clutch Winches. 2,000 to 50,000 lb. Capacities.

SWING BOOM CRANES: Truck: Motor Power Operated; high capacity; takes up only a small space. For handling transformers, cable reels, lamp posts, trees, poles, manhole castings, etc. 9 to 31 ft. booms; one to 10 ton capacities.

TOWERS: 2 or 3 section type and Pantograph types, with plain, revolving or racking platforms.

TRIPOD POLE DERRICKS: for 35 ft., 45 ft., and 60 ft. Poles; single piece or telescopic side legs; removable cast steel fittings.

USERS: AT&T; N. Y. Tel. Co.; T.V.A.; Consolidated Edison Co.; W.U.; Municipalities throughout America.

WRITE FOR CATALOGS:

No. 79—KRANE KAR *No. 70—Truck Equipment*

THE ORIGINAL SWING BOOM MOBILE CRANE WITH FRONT-WHEEL DRIVE AND REAR-WHEEL STEER

9, 15 AND 30 TON CAPACITIES

KRANE KAR

SILENT HOIST & CRANE CO.

852 63rd ST., BROOKLYN 20, NEW YORK

CCJ Reports

Continued from Page 330

the American Transit Association issued a joint objection to the proposed increase in the excise tax on gasoline of 1.5 cents per gallon.

The official statement of objection was presented by the general counsel of the American Trucking Association, Edgar S. Idol. In his opening statements, he said that Guy C. Hecker of New York, who is executive manager of the American Transit Association joined him in this statement.

Mr. Idol said that "Gasoline is not a luxury—its principal use is as a fuel, absolutely essential for the operation of our highway transport system."

He also said that the truck and bus industries support the proposition that highway users should pay for the highways in special user fees or taxes, but that a tax which supports the general operations of various Federal State organizations is inequitable—"and particularly inequitable for the for-hire section of the industry to be so taxed."

Tax Labeled Discriminatory

Spokesmen for the nation's truck and bus industries have declared the proposed one and one-half cent per gallon increase in the federal excise tax on gasoline was "specialized and discriminatory" and urged that necessary federal revenue be raised by across-the-board income taxation. They said operating ratios of bus and truck for-hire carriers are already too high to absorb increased costs without increasing rates to the public, adding that any increase in the federal gasoline tax is bound to be reflected fully in inflated living costs.

Supreme Court Ruling Bans Connecticut Tax

In a decision on March 26, the U. S. Supreme Court upheld the contention of Spector Motor Service, Inc. (with headquarters in Missouri) that the Connecticut tax on the privilege of doing strictly interstate business in Connecticut is unconstitutional. The decision affects similar tax attempts in some 30 other states.

The court made it clear, however, that "foreign" firms could be taxed on any portion of their business which was strictly intra-state or could be taxed on use of highways or in lieu of a property tax. Thus it is feared that the decision may serve only as a guide for redrafting the law rather than as a means of eliminating the tax.

(TURN TO PAGE 334, PLEASE)

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class 3 fit, too

. . . the closer the fit the greater the holding power, that's why all UNBRAKO Screws are made to # 3 thread tolerance —the highest grade of interchangeable screw-thread work. Write for your copy of the UNBRAKO Catalog.

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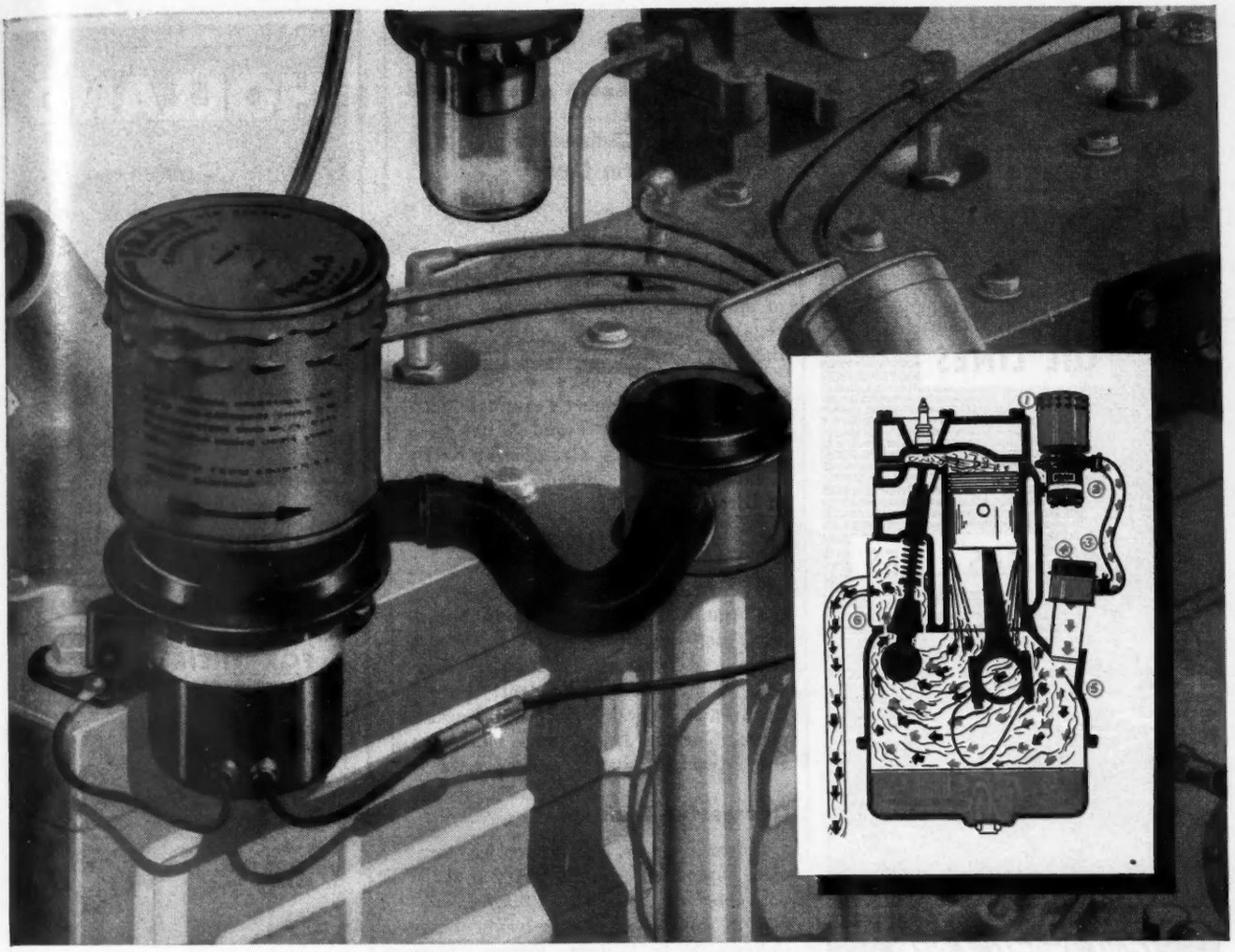

STOP dilution and cold-engine SLUDGE

FRAM Positive Crankcase Ventilator gets rid of blow-by to lick Fleet Sludge Problems

Across the nation fleet operators, large and small, are finding the Fram Positive Crankcase Ventilator stops dilution and cold-engine sludge.

A major oil-company executive says, "*We are convinced that the Fram Ventilator will do a tremendous amount of good in eliminating excessive oil contamination and low-temperature deposits.*"

A bus-line executive found his Ventilator-equipped test engine *clean* after 10 months of 18-hour-a-day rugged city operation.

The Fram Positive Crankcase Ventilator removes blow-by gases *before* they contaminate the oil. Provides constant, uniform crankcase ventilation with clean, filtered air . . . regardless of engine or vehicle speed.

Get started on a campaign for cleaner engines and fewer repairs with the Fram Positive Crankcase Ventilator. See your jobber or write to: FRAM CORPORATION, Providence 16, R. I. *In Canada:* J. C. Adams Co., Ltd., Toronto, Ontario.

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Here's news! The New Fram Radiator & Water Cleaner stops scale, stops rust, removes particles! Softens, filters, inhibits! And, it's harmless to anti-freeze or other radiator chemicals. Two easily installed models fit cars, trucks and buses. Economical Replacement Cartridge renews your protection. See your Fram Jobber for details.

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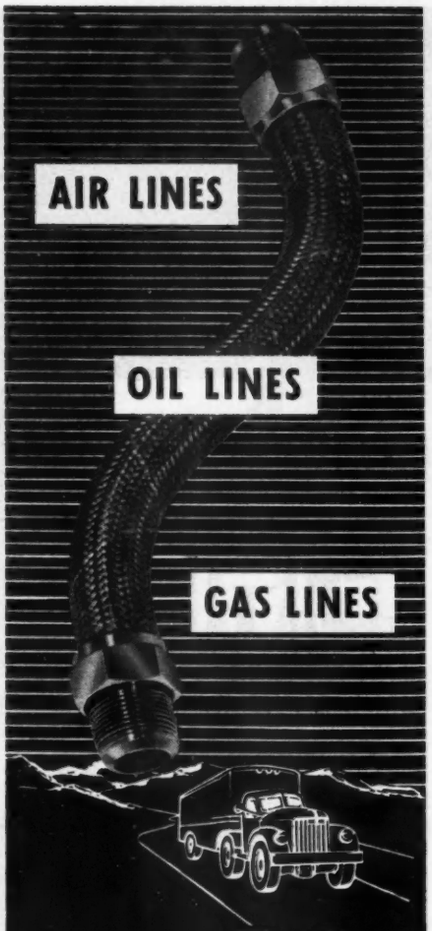

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ALL-METAL AUTOMOTIVE TUBING

CCJ Reports

Continued from Page 332

Chamber of Commerce Favors Uniform Laws

The Chamber of Commerce of the United States has announced that its membership will be asked to vote on a policy position favoring elimination of state motor vehicle size and weight regulations unnecessarily restrictive to the movement of interstate transport.

The proposed policy, to be put to a vote at the Chamber's Annual Meeting, April 30, May 1 and 2, has been approved by the Chamber's Policy Committee, and reviewed by the Board of Directors.

Body Men Elected

The election of officers for 1951 of the American Society of Body Engineers, Inc., was held recently in Detroit. Chosen to serve were: Harry G. Garman, Fisher Body, president; Harold V. Antnip, Chrysler Corp., vice president; Gordon J. Lawton, secretary; and Edward L. Pangborn, treasurer.

Course for Trainers

Driver trainers, senior drivers, foremen, supervisors, instructors and those connected with driver training may take a course at Pennsylvania State College, State College, Penna., April 30-May 11. The course will include various aspects of driver-training programs, safety, and driver technique. Vehicles will be used in connection with the course, but the course is open only to experienced truckmen. The cost is $50 which includes all course incidentals. Room and board are additional. Apply directly to Prof. Amos E. Neyhart, Institute of Public Safety, The Pennsylvania State College, State College, Penna.

(TURN TO PAGE 336, PLEASE)

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TRUCK AND TRAILER EQUIPMENT

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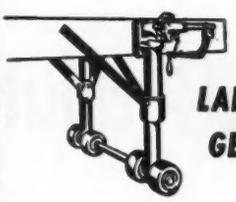

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The solution to the tip-over and the jacknife

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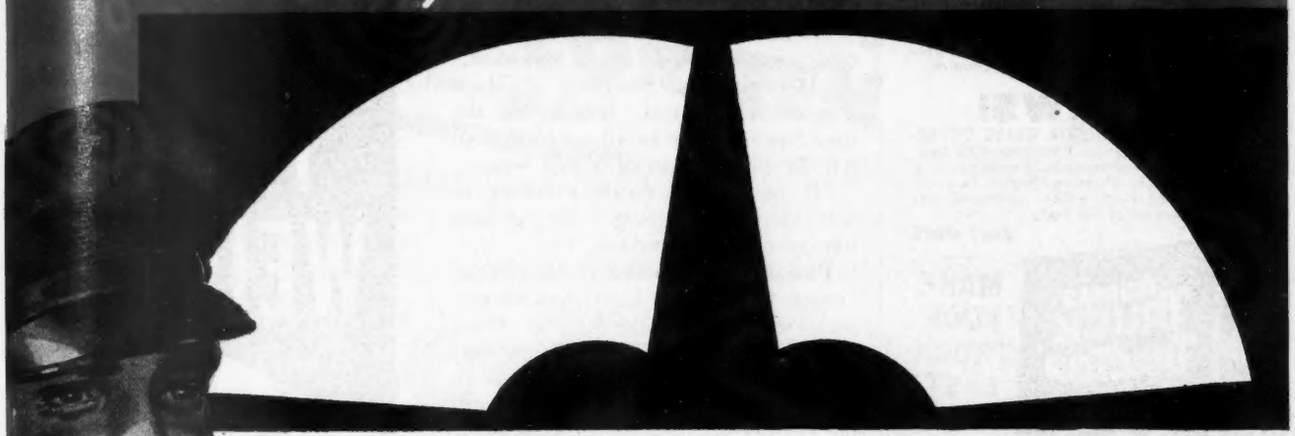
Put these TWIN ARCS *of* CONSTANT VISION *between your drivers and* TROUBLE!



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DIRECT ELECTRIC DRIVE DUAL WINDSHIELD WIPERS

When the weather turns bad, that's when your drivers need constant, good vision on the road. Take this clear route to safety with American Bosch DIRECT ELECTRIC DRIVE Windshield Wipers. Regardless of engine speed, load or acceleration, they *always* function with unfaltering, synchronized action, because they operate independently of the engine. There's no lag or stuttering of the wiper blades, even in the roughest weather.

Ask about Model WWB—designed for swift, simplified dual installation under cowl. Model WWA for vehicles requiring single wipers also available for header mounting. Rugged, heavy duty American Bosch construction guarantees years of trouble-free service. Write NOW for application data for the trucks, tractors and cars in YOUR fleet. Already in wide use as original equipment, these Dual Wipers are today's answer to greater safety—good vision in bad weather.

- **Direct, electric drive with constant action regardless of engine load or speed.**
- **Synchronized two speed operation of Dual arms and blades. Tandem or opposed wiping motion.**
- **Fully automatic blade parking, adjustable to suit installation. Arms up to 12" long. Blades up to 14". Wiping angle up to 118°.**
- **Bad weather power 30 inch/lbs. torque per blade. Thermal cutout protects wiper motor against overload.**
- **Available for 6 or 12 volt systems. For cars, trucks and tractors.**

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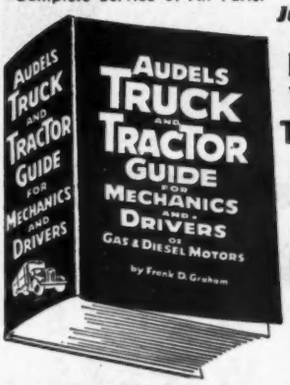
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CCJ Reports

Continued from Page 334

Mack President Warns Railroads

"If the railways insist on continuing their war against truck transport," E. D. Bransome, president of Mack Trucks. Inc., warned, "it looks like the time has come for an all-out battle and not the continuation of a cold war.

"If the railroads do not cooperate in this time of crisis, then I say the time has come for a showdown."

Pledging the trucking industry to "peace on the home front" and cooperation with every other form of transport for the sake of national security, Mr. Bransome urged the railroads to do the same. Otherwise, he warned, the railway war against trucking might lead to government take-over of all transportation.

Mr. Bransome had high praise for the pioneering spirit and growth of the railways, but lashed out against their attempt to substitute propaganda for legitimate business competition. He emphasized these points in a talk on "Transportation in a Time of Crisis" at a luncheon sponsored by the New York Board of Trade, Inc., Transportation Section.

Stressing that in this time of crisis trucks are indispensable to the armed forces and the defense economy, the Mack executive said the railways were seeking to cripple trucking by restrictive legislation. The railroads, he charged, were "lobbying in almost every state for higher taxes of all kinds on highway users, higher gasoline taxes, higher license fees. They have even thought up a fancy gadget called a ton-mile yardstick that is only a device to raise taxes and to interfere with legitimate competition."

Railway attempts to cripple trucking by propaganda and pressure legislation, Mr. Bransome warned, were a threat to national defense. The Mack executive attributed current railway policy to the phenomenal growth of trucking. In 1950, he said, trucks carried three times the actual tonnage carried by railroads, waterways, airlines and pipeline systems together. Pointing out that "national security rides on trucks and trucks ride on highways," the speaker warned that in seeking to restrict trucking by arbitrary legislation, the railways were actually hitting defense work "smack on the nose."

He urged the railroads to give up the notion that "their position in the national economy was achieved by divine right."

(TURN TO PAGE 404, PLEASE)

THE ONLY COMPLETE LINE OF TRUCK WEIGHTS

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BALANCE WEIGHTS

- Streamlined Design.
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WHEEL WEIGHTS, INC.

DETROIT 34, MICHIGAN

This Trailmobile tank built lighter with U·S·S COR-TEN

(at no extra cost)

saves half a ton of steel

—carries 180 extra gallons

IF this 5600-gallon tank were built of plain carbon steel it would weigh 12,900 pounds. Built of U·S·S COR-TEN, it weighs only 11,800 pounds—more than half a ton less.

The 180 gallons of payload that ride cost-free in place of the 1100 pounds of deadweight trimmed off by COR-TEN construction mean a clear saving in gasoline delivery cost of $1.44 on *every* 200-mile round trip this unit makes. These savings amount to a pretty penny through the years—and they're all pure gravy.

That's because, by using COR-TEN to reduce weight, Trailmobile has engineered the extra payload into the unit without a cent of extra cost. This Trailmobile tank is typical of the many applications where weight-saving, *steel-saving* construction with U·S·S COR-TEN costs no more—or only little more—than heavy construction with ordinary steel.

When you save weight with COR-TEN you save steel too

We emphasize the saving of *steel* that you obtain by building lighter with COR-TEN because it is very important; steel is hard to get. So, to beat the steel shortage, you have to make *your* steel go further—by using less of it per unit manufactured. That means using steel that *does* more—tougher, stronger U·S·S COR-TEN—steel that you can safely use in thinner sections to replace carbon steel in your equipment.

In this way you can get up to one-third more parts from every ton. In other words, from the same *tonnage* of steel you can get four stronger and more durable COR-TEN units instead of only three heavier, less efficient units of carbon steel. That's what we mean by making your steel go further. Would you like to talk about its possibilities? Just write or telephone our nearest district office and we'll be glad to give you the facts.

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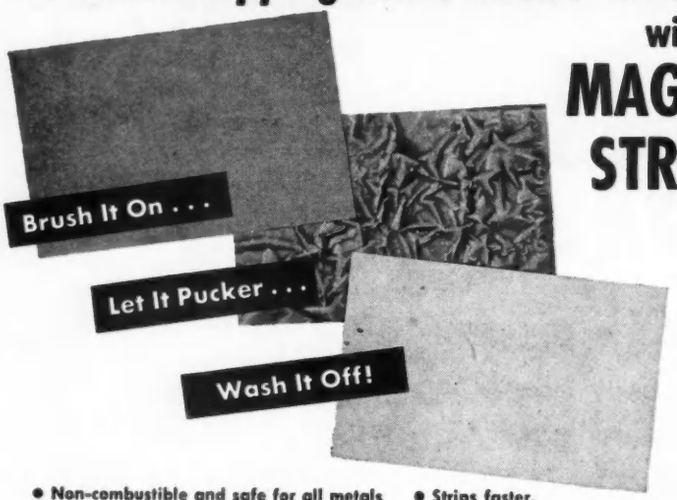

- Non-combustible and safe for all metals (and wood).
- One application strips several coats including primer.
- More economical. One gal. covers 100 sq. ft.
- Strips faster.
- Clings to vertical surfaces and spreads evenly.
- Reduces hand work by large margins.
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Write for the Stripit Bulletin.

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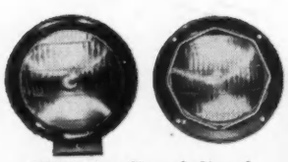
Now . . . a really advanced turn indicator switch! Designed by Sparton, meets 1951 SAE standards. Self-cancelling. Installed quickly, easily on steering column. Ample clearance for gear shift or air-brake control arms. Easy-to-see pilot light *blinks and clicks* to indicate signal lamps are operating.

Switch sold separately (lets you modernize old manual systems!), or in complete set with Sparton flashing- or arrow-type lamps. See your automotive supplier!



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BUY BONDS

CCJ Reports

Continued from Page 336

Steel Supply Cut

Little hope is held out to manufacturers of truck bodies that there will be sufficient steel available to meet their needs over the next few months. Manufacturers have told NPA that they now are getting less than half the amount available before Korea. But NPA officials warn that increasing defense needs make it likely that the present available supply will be even smaller shortly and advise manufacturers to standardize designs and use substitutes for steel wherever possible. Even establishment of CMP about July will not bring a solution to the bodymakers' problem, the industry advisory committee has been told. Even though CMP will assure definite allotments of steel for the industry, these set-asides are not now seen as providing as much as the industry needs.

Mustang Packs a Wallop

While the new Mustang engine developed by White Motor Co. has an extremely high horsepower-to-weight ratio, the fantastic figure which crept into CCJ's story in the March issue (pg. 74) should be modified to read as follows:

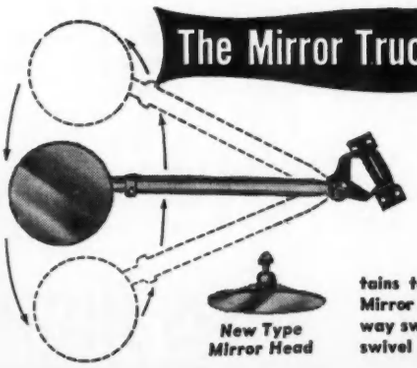
"The Mustang develops one horsepower for each 6¾ lb of weight."

Mack Gets Contract

A new $25,000,000 contract for the partial manufacture and full assembly of Army tactical five-ton dump trucks has been awarded to the Mack Manufacturing Corp. by the Ordnance-Tank Automotive center at Detroit, Mich. The manufacturing end of the contract will be performed at the company's New Brunswick, N. J. plant. The assembly work will be done at Mack's Allentown, Pa., plant.

(TURN TO PAGE 406, PLEASE)

The Mirror Truckmen Want!



This new Hindview has universal mounting for any size hinge, or for attaching to body. Large arm of heavy gauge steel reduces vibration. Cushioned ball joint maintains tension without tightening. Mirror heads available with one-way swivel or new-type universal swivel socket. See your jobber.

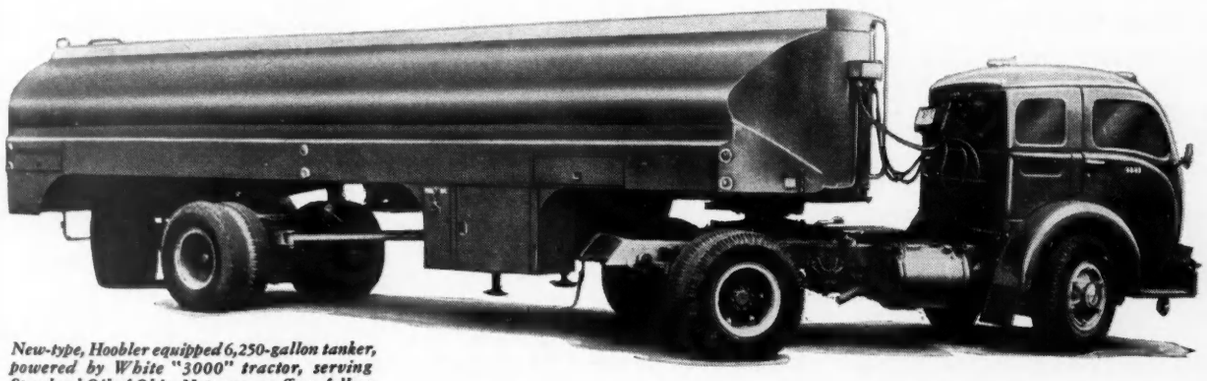
WHITEHEAD STAMPING CO.
1685 W. LAFAYETTE BLVD., DETROIT 16, MICH.

Delivery costs CUT ⅓!

THE tanker pictured here is one of many Hoobler-equipped units now setting new records of interest to every cost-conscious truck or fleet operator.

This tanker, developed by Standard Oil Company of Ohio, legally carries 6,250 gallons of gasoline—1,250 *more* than a similar tandem unit. It uses a Hoobler Undercarriage, with improved axle spacing, permitting *added* payload!

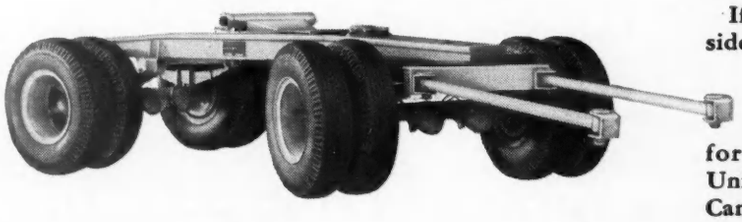
And Hoobler users everywhere can tell you that's only the beginning! Despite bigger payloads, equal or better schedules can be maintained thanks to Hoobler-improved maneuverability. Thus there's often better than a 20 per cent saving in labor alone!



New-type, Hoobler equipped 6,250-gallon tanker, powered by White "3000" tractor, serving Standard Oil of Ohio. Note non-scuffing, follow-through action of Hoobler Undercarriage.

HOOBLER UNDERCARRIAGE

helps make big savings on gasoline hauls



Next, note the Hoobler's follow-through principle. Its free-towing action, *with practically no tire scuffing,* greatly increases tire life. It's not at all unusual to get 3 to 4 times "normal" service from the original treads! What's more, Hoobler free towing means a surprisingly *big* reduction in fuel consumption!

When you weigh these gains, you can easily see how over-all delivery costs in *many* an operation are cut one-third . . . and more! Small wonder experienced users are sold on Hoobler performance. The tanker shown, for example, is one of six Hoobler-equipped units now serving Sohio . . . and more to come!

If your plans call for tankers, high sides, vans or flat beds (28 ft. and over), the long-life, easily serviced Hoobler Undercarriage can save you *plenty.* For complete information, for other user reports, write to The Union Metal Manufacturing Company, Canton 5, Ohio.

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DESIGNERS AND PRODUCERS OF STEEL PRODUCTS SINCE 1906

Builder of The Hoobler Undercarriage

Snyder SAFETY FUEL TANKS...

were born when highway transportation became big business, and through experience and modern engineering practices, are now the safest means of carrying gasoline or diesel fuels.

Snyder Safety Tanks embody the famous "Flame Guard" Safety Valve, and the new Fusible Fill Cap. Snyder Tanks also carry the unqualified Snyder's Year Guarantee against leakage and material or workmanship defect.

For catalog and address of your nearest dealer, write:

SNYDER TANK CORPORATION

P. O. Box 14, Buffalo 5, New York P. O. Box 2390, Birmingham 1, Ala.

CCJ Reports

Continued from Page 404

Late News Roundup

PORTLAND, ORE.: There is a new course in Interstate commerce law and transportation economics at Lewis and Clark College.

KANSAS CITY, MO., has a new terminal of the Powell Bros. Truck Lines at 1718 Lydia Ave.

NEW YORK: Branch Motor Express has a new safety slogan for its terminal safety meetings. The slogan reads: "Every man, every minute, every shipment." The phrase was used at the company's annual safety rallies where employees were honored for their safety record.

CHICAGO: A maintenance program for fork lift trucks such as used in motor freight terminals has been instituted by Automatic Transportation Co. It includes instructions in servicing, operating, and personnel training.

DETROIT: The Middle Atlantic Transportation Co. has a new twenty-door terminal building near the Detroit-Toledo Highway at 4108 Lagrange Avenue, Detroit.

NEW YORK: The first of 400 city buses which can be converted into 42-passenger ambulances went into service in this city recently. The new buses have safety features for 49 sitting and 85 standing.

CHRYSLER CORP. has set the agenda for its annual stockholders' meeting in Detroit April 17. In addition to the present directors, the nominees for the board include George W. Troost, vice president and comptroller, and James C. Zeder, director of engineering and research. The management also submits to the stockholders a supplemental pension plan for salaried employees.

DELUXE PRODUCTS CORP. of LaPorte, Ind., has established a separate Oil Filter and Industrial Sales Division.

END

Please Resume Reading Page 31

And at 3 o'clock . . . Wow!

FITZGERALD
METALLIC ALUMINUM-FUSED-OXIDE STEEL ASBESTOS
GASKETS*
STAND THE GAFF IN HIGH COMPRESSION ENGINES.
The Fitzgerald Manufacturing Co.
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WATER PUMPS
now number 75
Thoro-Tested FOR all popular cars & trucks
Wohlert CORPORATION LANSING 5, MICHIGAN

RENEW WORN PISTONS...
install RAMCO PISTON STABILIZERS on every Re-Ring Job!
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FRINK SNO-PLOWS
Both "V" TYPE and ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS FROM 1½ to 10 TONS
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DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. Ltd., TORONTO, ONT.

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CAMPBELL Lug-Reinforced TIRE CHAINS
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